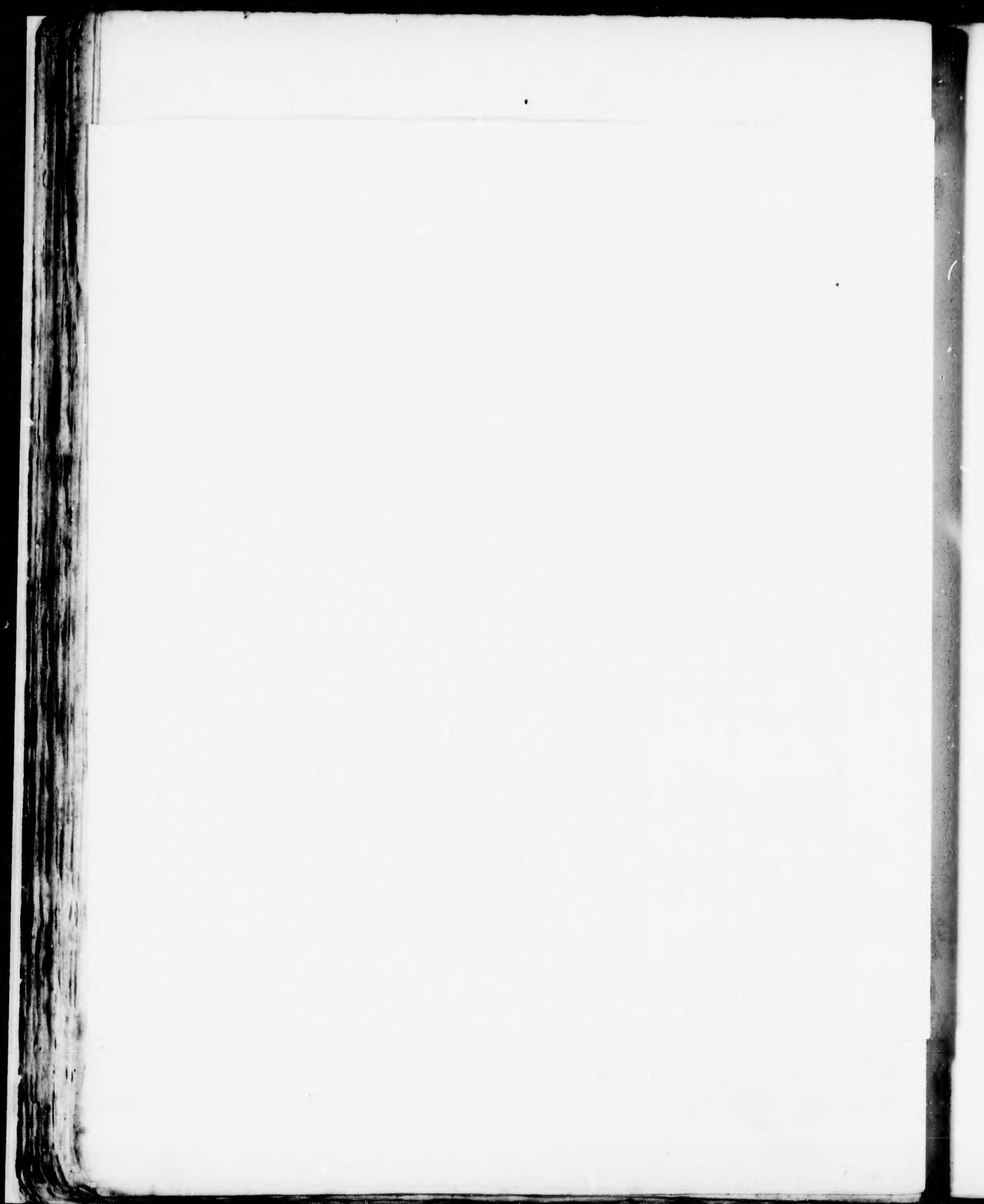






§ § LATIFOLIA. *Benth.*

3. *E. oblongifolium* (*Benth.*); foliis oblongo-ovatis basi angustato-rotundatis supra villosulis subtus albo-lanatis, petiolis basi dilatatis nudis, capitulis lateralibus terminalibusque, involucris in capitulo 3-6 sessilibus campanulatis glabris vel apice vix lanatis multifloris. *Benth. l. c. p. 412.*

Ab *E. latifolio* diversum videtur foliorum forma, involucris minoribus fere glabris et bracteolis brevioribus vix plumosis. Pedunculi rarissime simplices sæpius apice umbellati.

4. *E. latifolium* (*Sm. in Rees' Cycl.*); foliis ovatis basi rotundatis vel subcordatis supra arachnoideo-subtus dense lanatis, petiolis basi dilatatis nudis, capitulis in pedunculo solitariis vel paucis, involucris in capitulo 2-6 sessilibus campanulatis lanatis multifloris, bracteolis demum exsertis dense plumosis. *Benth. l. c. p. 412.*—*E. arachnoideum*, *Esch. in Mem. Acad. Sc. Petrop. v. 10.*

Habitus ut in speciebus affinis valde variabilis, sed (præter foliorum formam) involucris albo-lanatis et bracteolis longis rufo-plumosis facile recognoscendum, pedunculi etiam sæpius breviores simplices et capitula majora. Exemplaria Escholtziana non diversa videntur a Menziesianis.

5. *E. auriculatum* (*Benth.*); foliis ovatis margine undulatis basi rotundatis vel subcordatis crassiusculis supra arachnoideo-lanatis demum glabris subtus albo-lanatis, petiolis basi sæpius auriculato-dilatatis, ramis pedunculi glaucescentis pluribus rigidis, capitulis lateralibus terminalibusque, involucris in capitulo 3-4 sessilibus campanulatis glabris. *Benth. l. c. p. 412.*

Ab *E. latifolio* differt imprimis pedunculo elatiore ramosiore glaucescente nec ad ramificationes lanato, ramis crassioribus rigidioribus, capitulis minoribus lana fere omnino destitutis. Bracteolæ breviter plumosæ.

6. *E. nudum* (*Dougl. mss.*); foliis ovatis margine undulatis basi rotundatis vel subcordatis supra arachnoideo-lanatis demum glabris subtus albo-lanatis, pedunculo 2-3-chotome paniculato, capitulis lateralibus terminalibusque, involucris in capitulo 1-3 sessilibus tubuloso-campanulatis glabris, bracteolis vix plumosis. *Benth. l. c. p. 413.*—*E. arachnoideum*, *Hook. et Arn. Bot. Beech. Voy. p. 158. (non. Eschs.)*

Ab *E. latifolio* differt glabritie et inflorescentia. Bractææ sub involucris et ramificationibus breves, ovatæ. Involucris dentes breves obtusi. Bracteolæ setacæ, vix exsertæ. Perianthii lacinia subæquales.

7. *E. vimineum* (*Dougl. mss.*); annuum, foliis subradicalibus petiolatis ovatis subtus tomentosis, pedunculis scapiformibus divaricato-ramosis apice involucrisque glaberrimis. *Benth. l. c. p. 416.*

Pedunculi scapiformes, complures, basi sublanati, erecti, 6-8 pollicares. Rami tenues virgati. Involucra tenuia, cylindrica, sessilia, dentibus brevibus obtusis subæqualibus. Perianthia breviter exserta, lacinia exteriores per anthesin patulæ, obovatæ, interiores erectæ dimidio angustiores.

§ § STIPULATA. *Folia caulina nuda ramorum floralium stipulata. Benth.*

8. *E. angulosum* (*Benth.*); ramis floriferis erectis dichotomis vel verticillatim ramosis

foliosis, foliis inferioribus alternis petiolatis exstipulatis, ramorum floralium oppositis verticillatisve basi stipulatis, omnibus oblongo-linearibus subtus vel utrinque lanuginosis demum ramisque glabratiss, involucriis numerosis parvis pedicellatis hemisphaericis glabriusculis. *Benth. l. c. p. 406. tab. 18, f. 1.*

CHORIZANTHE. *R. Br.*

Involucrum tubulosum, triangulare, uniflorum, sexdentatum, dentibus nunc inaequalibus, 3 (angulorum) longioribus extimo longissimo, nunc subaequalibus. *Perianthium* involucrio inclusum vel vix exsertum. *Benth.*

1. *C. staticoides* (*Benth.*); annua, foliis radicalibus petiolatis spathulatis hirsutis, caulibus subnudis erectis 2-3-chotome ramosis, cymis laxo corymboso-paniculatis, involucriis glabriusculis, dentibus inaequalibus subulato-cristatis. *Benth. l. c. p. 418.*

Habitu ad *Staticem oleaeifoliam* vel fere *S. aristatam* refert. *Folia* radicalia rosulata. *Caules* semipedales, ad dichotomias articulati, bractea 2-3 breves verticillatas gerentes. *Involucra* fructifera aucta, dentibus valde inaequalibus. *Perianthium* brevissime pedicellatum, laciniae exteriores lanceolatae, interiores majores obovatae.

2. *C. Douglasii* (*Benth.*); annua, caule erecto 2-3-chotome ramoso, foliis radicalibus petiolatis spathulatis, caulibus oblongo-linearibus ramisque subsericeo-pilosis, cymis multifloris in capitulo terminali paniculato condensatis, involucriis pilosis, dentibus patentibus, basi membranaceo-dilatatis apice inaequaliter subulato-aristatis. *Benth. l. c. p. 419.*

Herba semipedalis. *Capitula* florum magnitudine pisi majoris. *Bractea* subulatae dentesque involucri purpurascens. *Perianthium* subsessile; laciniae omnes aequales, oblongo-cuneatae, apice truncatae mucronulatae.

3. *C. membranacea* (*Benth.*); annua, caule erecto subdichotome ramoso, foliis linearibus ramisque laxo lanatis, cymis multifloris in capitulis terminalibus subpaniculatis condensatis, involucriis tomentosis infundibuliformibus, limbo membranaceo-dilatato, dentibus aequalibus breviter subulato-aristatis. *Benth. l. c. p. 419. tab. 17, f. 11.*

Herba subpedalis. *Lana* caulis et foliorum nivea, tenuis, subdecidua. *Capitula* florum globosa, fructifera iis Scabiosarum nonnullarum similia. *Pedicelli* perianthio aequilongi.

4. *C. pungens* (*Benth.*); subherbacea, ramis elongatis diffusis subdichotomis, foliis petiolatis spathulatis ramisque pilosis, cymis multifloris laxo capitatis, capitulis irregulariter paniculatis, involucriis pubescentibus, dentibus inaequalibus bracteisque longe subulato-aristatis. *Benth. l. c. p. 419. tab. 19, f. 2.*

Herba perennis videtur. *Rami* sesquipedales, pilis mollibus patentibus villosi. *Capitula* secus ramos numerosa, multiflora, breviter pedunculata. *Involucri* dentes exteriores uti bractea pungentes. *Perianthium* subsessile laciniiis aequalibus.

MUCRONEA. *Benth.*

Involucrum tubulosum, compressum, uniflorum, bidentatum. *Perianthium* involucrio inclusum. *Benth.*

1. *M. Californica*. *Benth. l. c. p. 419. tab. 20.*

Herba annua, spithamæa, pilosiuscula, ramis dichotomis divaricatis. *Folia* inferiora petiolata, oblongo-linearia. *Bractee* ad dichotomias, et sub floribus amplexicaules, stellato-trilobæ, lobis lato-ovatis apice aristulatis. *Involucra* inferiora in dichotomiis solitaria et sessilia, superiora ad apices ramorum approximata. *Dentes* involucri subulato-aristati, subpungentes, exteriore longiore. *Perianthium* pedicello suo æquilongum, laciniis subæqualibus.

PTEROSTEGIA. F. et M.

Flores hermaphroditi vel polygami solitarii involucro bilobo fructifero ampliato dorsoque cristato obteeti. *Perianthum* 6 (interdum 5-) partitum, herbaceum, persistens. *Stamina* 6 (vel 5). *Styli* 3, brevissimi. *Stigmata* capitata. *Ovarium* trigonum, uniloculare. *Ovulum* unicum, basilare. *Caryopsis* triquetra, involucro inclusa. *Semen* erectum. *Embryo* in axi albuminis farinacci; *radicula* supera.—*Herba annua, ramosissima, prostrata, facie* Drymarie. *Folia opposita, obovata, vel subreniformia, integra vel apice emarginata; ochreae nullæ.* *Flores axillares, subsessiles, minuti.*

P. drymarioides. F. et M. ind. sem. hort. Petrop. 1835; Am. Sc. nat. N. S. 5. p. 304. (TAB. XC.)

In our specimens the involucre is only 2-lobed, not 2-leaved, and we have not observed more than three stamens in a flower; many of the female flowers want stamens entirely.

TAB. XC. Fig. 1. Portion of the flowering stem; fig. 2. Floral bractea; fig. 3. The same laid open; fig. 4. Flower; fig. 5. Stamen; fig. 6. Pistil; fig. 7. Fructiferous bractea; fig. 8. Achenium within the persistent perianth:—magnified.

ORD. L. CHENOPODIÆ. De Cand.

1. *Suæda fruticosa.* Forsk.—*Moq. Tend. in Ann. Sc. nat. N. S. 4. p. 217.* *Salsola fruticosa*, Auct.

1. *Roubieva anthelmintica?* Var. foliis hastatis.

This differs considerably from the more usual state of the plant (*Chenopod. anthelminticum* L., and *Ambrina anthelmintica*, Spach, hist. nat. des veg. 5. p. 298) on account of the decidedly hastate and almost triangular leaves: the flowers, too, are in a simple terminal elongated interrupted spike. The genus *Roubieva* of Moquin Tendon, distinguished from *Chenopodium* by its vertical seed, and from *Agathophytum* by the keeled segments of its perianth, which form a pentagonal covering to the nut, was constituted for one or two South American species, but ought to include the present plant and a few others indicated by Spach under his *Ambrina*, which does not differ.

GRAYIA. Nov. Gen.

Flores dioici, ebracteolati, spicato-subracemosi. MASC. *Perianthium* 5-partitum, lacinis æqualibus inappendiculatis. *Stamina* 5, receptaculo inserta, perianthii laciniis opposita. *Squamule* hypogynæ nullæ. FEM. *Perianthium* monophyllum, marginato-alatum, compressissimum, apice emarginatum, muticum, intus supra medium utriculatum. *Ovarium* in fundo utriculi sessile, anguste oblongum apice attenuatum, uniloculare, uniovulatum. *Stylus* subulatus, basi articulatus; *stigmata* duo, filiformia, exserta, hirsuta. *Fructus* compressus, orbiculatus, perianthio aucto membranaceo venoso persistente inclusus, styli basi apiculatus. *Semen* verticale, compressum, orbiculatum, pericarpio tenui arcte adherens testa, membranacea. *Embryo* hippocrepiformis, periphericus, albumen farinaceum cingens. *Radicula* infera.—*Fruticulus erectus, ramosus.* *Rami apice spinoscentes, cortice albido tecti, juniores pubescentes.* *Folia solitaria vel fasciculata, oblongo-lanceolata, basi cuneata, juniora puberula et carnosula integerrima.*

1. *G. polygaloides*. Hook. et Arn. in Hook. Ic. Plant. t. 281.—*Chenopodium* ? spinosum. Hook. Flor. Bor. Am. II. p. 127, (mas.); supra p. 384.*

HAB. Interior of California, Nov. 1826; Mr Douglas. Snake country; Mr Tolmie.

Our first knowledge of this very singular and interesting plant, was derived from extremely young and imperfect specimens collected by Mr Douglas during his first journey in North West America, and noticed in the *Flora Boreali-Americana* as a doubtful species of *Chenopodium*. Our specimens with female flowers and fruit, from the Snake country, have an aspect so extremely different from those just alluded to, partly from the more fully developed foliage, and partly from the very different structure of the perianth, that it was not till after a most careful comparison of the two plants, that we could satisfy ourselves of their belonging to one and the same species. The habit and foliage resemble considerably some Cape *Polygale*, a resemblance still further strengthened by the shape and colour, frequently tinged with red, of the fructiferous perianth. The leaves when young are thick and fleshy, obovato-cuneate, and covered with minute mealy scales as in several species of *Atriplex*: and it is from this circumstance very probable that the plant grows in salt marshes. When the leaves are older they elongate, and the mealliness disappears.

We have dedicated this genus to Dr Asa Gray, Professor of Botany in the newly established university of the State of Michigan, U.S., the distinguished author of the revision of North American *Rhynchospora* and *Melanthaceæ*, and coadjutor with Dr Torrey in the Flora of North America. It is true that already two other genera have been named after our excellent friend, the one *Grayia* of Arnott, in Wight's Catalogue of plants of the Peninsula of India, No. 2033; but as Dr Arnott has reason to think that Dr Gray would prefer his name to be connected with the American plant, the Eastern one will be described under another designation; the other is the *Asagraea officinalis* of Dr Lindley, in the Bot. Reg. (1839) t. 33: but no sooner had Dr Gray seen this figure than he felt almost certain that the plant belonged to his genus *Schaenocaulon*, an opinion, he informs us, he has since verified by an examination of Scheide's specimen, the authority for the species.†

ORD. LI. SANTALACEÆ. Brown.

1. *Comandra umbellata*. Nutt.—Hook. Flor. Bor. Am. II. p. 139.

HAB. Snake country below the American falls. Mr Tolmie.

* Inserted there by mistake under *Plumbagineæ*.

† "Of *Schaenocaulon* I now know four species. The genus is extremely well marked and distinct, though the character requires some emendation, since it was drawn from a single species, and that without the fruit. There is first the original species, *S. gracile*:—then this of Lindley—thirdly, a plant in Drummond's Texan collection; in the herbarium of Vienna I had named this *S. aletroides*, but as that name is not very appropriate, it may be rather called *S. Drummondii*: I have not seen the base of the stem, but it probably is bulbous like the others.—The fourth species (*S. caricifolium*) is *Veratrum caricifolium* Schlecht. in Ind. Sem. Halens. of which he has given me a specimen in fine fruit; he possesses young plants raised from the seed also: the foliage, &c., is exactly the same as in the original species, but the spike is shorter and thicker." Gray in litt.

We have received from G. U. Skinner, Esq., of Guatemala specimens precisely according with Scheide and Lindley's plant, from Guatemala, as the Sabadilla of commerce of that country: but this must not be confounded with the *Veratrum Sabadilla* of Descourtilz Flor. des Antilles, III. t. 195, and of Turpin in the plates to the Dict. des Sc. Nat., which it is to be feared has nothing to do with the true Sabadilla.

ORD. LII. LAURINEÆ. Juss.

1. *Oreodaphne* (Unbellularia) *Californica*. Nees, ab. Esenb. Laur. p. 463.—*Tetranthera*? *Californica*. Hook. et Arn. supra, p. 159.—*Laurus regia*? Dougl. Journal, in Hook. Comp. Bot. Mag. v. 2.

ORD. LIII. EUPHORBIACEÆ. Juss.

1. *Euphorbia polygonifolia* L.—Hook. Flor. Bor. Am. II. p. 140.

HAB. Snake country. Mr Tolmie.

HENDECANDRA. Esch.—*Astogyne*. Benth.

Flores dioici. MASC. *Calyx* 5-fidus, laciniis æstivatione subvalvatis. *Petala* nulla. *Glandulæ* 5, ad basin calycis sitæ, laciniis oppositæ. *Stamina* 6-10, æstivatione inflexa, libera: *filamenta* villosa: *antheræ* adnate, biloculares, ovaies, loculis parallelis. *Ovarii* rudimentum nullum. FEM. *Calyx* 5-fidus. *Petala* nulla. *Discus* hypogynus carnosus obscure 5-lobus. *Ovarium* globosum, 3-loculare, loculis uni-ovulatis, ovulis appendis. *Styli* 3, breves, radiantes, sub-4-partiti, laciniis sæpe bifidis. *Capsula* subcoriacea, tricoeca, seminibus solitariis.—*Suffrutices procumbentes vel adscendentes, pilis stellatis lepidoto-incanæ. Folia oblonga, integerrima, obtusa vel acuta, nervo medio subtus valido. Flores masculi in racemis spiciformibus terminalibus oppositifoliisve dispositi, breviter pedicellati, bracteis parvis: feminei subsolitarii.*

1. *H. procumbens* (Esch.); foliis longe petiolatis, racemis masculis abbreviatis petiolum vix superantibus.—(TAB. XCI.) Esch. in Mem. Acad. Sc. St. Petersburg: Linnæa III. Litter. p. 150.

HAB. San Francisco. Dr Sinclair. (H. M. S. Sulphur.) Douglas. Chamisso.

That this is the genus and species described by Eschscholtz we entertain no doubt, especially as we have received specimens so named from Chamisso. In the 5th volume of the Linnæa, p. 86, Chamisso and Schlechtendahl reduce it to *Croton*, and consider it no way different from *C. gracilis* of Kunth, from Mexico. Again, Mr Bentham, in his account of Hartweg's Mexican plants, No. 83, makes of *Croton gracilis* his *Astogyne crotonoides*, and expresses his doubts if Mr Douglas' Californian specimens belong to the same, or form an allied species. An attentive comparison of Hartweg's specimens, and of Douglas' with Chamisso's, leave however no doubt on our minds that they all belong to the same genus, but that the Mexican species is different from the Californian. The name *Hendecandra* is certainly not appropriate, but we are unwilling to change it for one so much more recent, and founded on another species. Eschscholtz does not seem correct as to the number or situation of the stamens, and Mr Bentham has omitted to notice the hypogynous disc: the styles are often more divided than is stated by either. *Croton gracilis* of Kunth or *Astogyne crotonoides*, Benth. may be thus distinguished:—*H. crotonoides*; foliis breviter petiolatis, racemis masculis elongatis folia fere duplo superantibus.

TAB. XCI. A. Male Plant.—Fig. 1. Flower; fig. 2. Stamens and glands; fig. 3. Stamen. B. Female Plant. fig. 4. Advanced flower; fig. 5. Capsule, with 1 lobe removed; fig. 6. Lobe separated from the capsule; fig. 7. The same cut open to show the position of the seed; fig. 8. seed:—magnified.

ORD. LIV. GARRYACEÆ. *Lindl.*GARRYA. *Lindl.*

Dioica. MASC. *Calyx* tetraphyllus. *Stamina* 4. FEM. *Calyx* ovario coherens, bidentatus. *Ovarium* 1-loculare, ovula duo ab apice funiculorum totidem pendula. *Styli* duo setacei. *Pericarpium* baccatum, indehiscens, dispermium. *Semina* oblonga pendula. *Albumen* carnosum, prope hilum embryonem minimum fovens. *Radícula* supera.—*Frutex* ramosus. *Folia* opposita, exstipulata, undulata, breve petiolata, acuta, coriacea, sempervirentia. *Flores* intra bractæas connatas, in spicis amentacis pedunculis dispositi. *Lindl.*

1. *G. elliptica*. *Lindl. in Bot. Reg. t. 1686.*

First found by Mr Menzies in California.

ORD. LV. SAURUREÆ.

ANEMOPSIS. (*Anemia*, *Nutt.*)

Involucrum 5-8-phyllum, coloratum. *Spadix* simplex; floribus hermaphroditis bracteatis. *Perianthium* nullum. *Stamina* epigyna, 6 nunc 8; filamenta crassa, antheræ ovales biloculares, loculis lateralibus connectivo crasso disjunctis. *Styli* 3 nunc 4, subulati, ovaria coadunata, apice hiantia, 1-locularia. *Placentæ* 3-4 inter stylos laterales, pauciovulatæ. *Fuctus* cum spadice coalescens. *Capsula* unilocularis, 3-4 valves, apice solo dehiscentes, sub 6-sperma. *Semina* subrotunda, punctulata.—*Herba* perennis, subaquatica, stolonifera. *Caulis* monophyllus, proliiferus, monocephalus. *Folia* radicalia stipulata cordato-ovalia, obtusa, petiolata; caulium amplexicaule.

1. *A. Californica*. *Nutt. in Tayl. Ann. Nat. Hist. I. p. 136.*—(TAB. XCII.)

This has likewise been found at Zacatecas in Mexico, by Hartweg, and is No. 4 of his collection. We regret that our specimens will not, without the destruction of them, enable us to exhibit a representation of the base of the germen or young fruit, which is incorporated with the spadix. In their structure the fructification and inflorescence have a very close affinity with *Houttuynia*, (see Hook. in Bot. Mag. p. 2731):—the chief difference being that our plant has 6 (not 3) stamens.

TAB. XCII. *Fig. 1.* A floral bractea; *fig. 2.* A flower, the bractea being removed; *fig. 3.* Portion of the pistil which is free, not united with the spadix; the epigynous stamens being removed:—*magnified.*

While this part of the work was in the press, we were gratified by the arrival of an interesting collection of plants made on the Pacific coasts of America, by Dr Sinclair, surgeon of H.M. surveying ship, the Sulphur, dispatched to those seas under the command of Captain F. W. Beechey, and upon that officer's return, on account of ill health, of Captain Belcher. Some of the Californian plants, as in the present instance, will be here introduced, and a portion from a more interesting field will form another Supplement, and conclude this work. We gladly acknowledge Dr Sinclair's invaluable exertions in the cause of Botany by dedicating a new species of *Pine* (see p. 392) to him.

ORD. LVI. PLATANÆ. *Lest.*1. *Platanus occidentalis*. *L.—supra, p. 160.*ORD. LVII. MYRICEÆ. *Rich.*1. *Myrica Californica* (*Ch. et Schl.*) ramis angulatis, foliis anguste lanceolatis acutis

basi in petiolum brevem attenuatis adultis præsertim serratis glaucescentibus coriaceis punctis minutis resinosis adpersis margine reflexo obsolete nervosis, amentis axillaribus solitariis, fructibus tuberculatis nudis.—*Ch. et Schl. in Linnæa*, VI. p. 535; *Hook. Flor. Bor. Am.* II. p. 260.—*M. Xalapensis*, *supra* p. 160; (an *H.B.K.*?)

ORD. LVIII. CUPULIFERÆ. *Rich.*

1. *Quercus agrifolia* (*Née*) foliis subcordato-ovatis remote spinoso-dentatis utrinque glabris perennantibus, fructibus solitariis geminisque axillaribus, cupulæ hemisphæricæ basi attenuatæ squamis adpressis oblongis obtusiusculis glabriusculis, glande ovato-oblonga acuta juniore subconica.—*Née in Ann. Sc. Natur.* III. p. 271; *Willd. Sp. Pl.* IV. p. 431; *Spr. Syst.* III. p. 859.—*Hook. Ic. Pl. ined.*

2. *Q. Garryana* (*Dougl.*) foliis membranaceis latissime obovatis utrinque obtusis sinuato-pinnatifidis siccitate nigrescentibus supra glabris subtus petiolis ramisque dense fusco-pubescentibus lobis latis obtusis, fructibus sessilibus, cupula perbrevis-hemisphærica dense squamosa squamis ovato-acuminatis pubescentibus, glande ovata obtusa cum umbone conico. *Hook. flor. Bor. Am.* II. p. 159.

California. *Menzies. Douglas.*

3. *Q. Douglasii*; foliis membranaceis oblongo-ovalibus basi acutis petiolatis sinuato-pinnatifidis siccitate haud nigrescentibus, supra glabris subtus puberulis, lobis brevibus acutiusculis, petiolis ramulisque junioribus dense fulvo-pubescentibus, fructibus sessilibus solitariis binisve, cupula hemisphærica dense squamosa squamis ovatis convexis in appendicem submembranaceam fulvam appressam linearem obtusam productis pubescentibus, glande ovata cupulam triplo superante obtusa cum umbone conico.—*Hook. Ic. Pl. ined.*

The leaves and whole appearance of this plant closely resemble *Q. sessiliflora*, but the scales of the cupule are different. In this respect also, as well as in the shape and colour of the leaves when dry, it differs from *Q. Garryana*. We have branches with nascent foliage which we suspect to be the young state of this plant; in these the leaves are covered with down on both sides, the lobes are tipped with a short soft mucro.

4. *Q. densiflora*; foliis perennantibus coriaceis petiolatis oblongo-lanceolatis basi obtusis breviter acuminatis parallele nervosis integerrimis margine revolutis junioribus fulvo-furfuraceo-tomentosis subtus pallidioribus demum glabris, amentis masculis elongatis folia subsuperantibus densifloris valde tomentosis nunc ad basin flores paucos femineos gerentibus, fructibus sessilibus, cupula brevi hemisphærica dense squamosa, squamibus elongato-linearibus laxis sericeis, glande ovato-globosa sericea.—*Hook. Ic. Pl. ined.*

This remarkable plant has very much the appearance of a *Castanea*, the fruit in the only specimen we possess being situated at the base of a male somewhat fascicled catkin of the former year, while the numerous male catkins of the present year present no appearance whatever of female flowers. The leaves are from two and a half to three inches long, and nearly three-quarters of an inch in breadth.

ORD. LIX. CONIFERÆ. Juss.

1. *Taxodium sempervirens*. Lamb. Pin. t. 643? Hook. Ic. Pl. ined.—*Abies religiosa*. *supr.* p. 184 (an Cham. et Schlect?)

Of this we have seen no flowers nor fruit, and the leaves are nearly twice the length of those figured in Mr Lambert's work, shining on the upper side as in *Podocarpus*, and glaucous underneath. The tips of the branches exhibit buds formed of imbricated membranaceous concave shining scales, which resemble the scales at the base of the gallule in Lambert's description and figure quoted. Our plant is obviously what Douglas alludes to in his Journal (Comp. Bot. Mag. vol. II. p. 150.) in the following words:—"But the great beauty of the Californian vegetation is a species of *Taxodium*, which gives the mountains a most peculiar, I was almost going to say awful, appearance,—something which plainly tells that we are not in Europe. I have never seen the *Taxodium Nootkatense* of Née, except some specimens in the Lambertian herbarium, and have no work to refer to; but from recollection, I should say that the present species is distinct from it. I have repeatedly measured specimens of this tree 270 feet long, and 32 feet round at three feet above the ground. Some few I saw upwards of 300 feet high, but none in which the thickness was greater than those I have instanced."

1. *Pinus Sinclairii*; foliis ternis acicularibus elongatis gracilibus supra canaliculatis dorso convexis margine asperis, strobilis basi obliquis pedalis oblongis, squamis elongatis cuneatis, apicibus crassis elevato-tetragonis centro tuberculo spinuloso uncinato instructis. (TAB. XCIII.)

This covers the hills from Monterey to Carmelo and to Punta Pinos. (*Dr Sinclair* of H. M. S. Sulphur.) It is probably the same as was observed by Mr Collie, and supposed by him to be *Pinus rigida*, Mill. (*vide supra*, p. 160.) The ternate or occasionally binate leaves are from three to four inches long, rigid and sharp. The solitary cone we possess is in an old state, the seeds having fallen out, and the scales spreading: it is twelve inches long, and five at its greatest breadth near the base. The scales are from two to three inches long, three-quarters of an inch broad, cuneate, hard and coriaceous, the apex much thickened, and forming a short four-sided pyramid with a short reflexed sharp rigid point. As a species it approaches, in the form of cone and scales, to *P. Montezuma*, Lam. Pin. t. 22:—but the leaves are quite different. It may possibly be the *Pinus Californiana* "Lois, in the N. Duhamel, 5, p. 243," and Loud. Arboret. Brit. p. 2268:—but all the description we can find of that tree, is simply that its leaves are in twos or threes, and that the cones are longer than the leaves. To this Loudon adduces as a synonym the *P. Montereyensis*, Godfrey and Hort. Society's Gard. of which, however, almost nothing is known.

TAB. XCIII. The base and apex only of the cone are here represented, the whole being much too large for the plate. Fig. 1. Scale from the cone:—nat. size.

2. *P. radiata* (Don.); foliis ternis? strobilis inaequilateri-ovatis, squamis cuneatis crassis apice dilatatis late rhomboideis hemisphaericis centro depressis cum mucronulo, inferioribus hinc triplo majoribus.—Don, in Lin. Soc. Trans. XVII. p. 442. "Lamb. Pin. t. 86." Loud. Arboret. Brit. p. 2270, f. 2182.

California; Beechy. Dr Coulter.

We omitted this in our former account of the Californian plants, as we were acquainted only with a single cone, but feel no doubt in referring it as above; Dr Coulter found it along the sea-shore at Monterey; and

we possess the same collected at Tepic by Dr Sinclair of Her Majesty's Ship Sulphur. On comparing this with the *P. patula* of Scheide and Deppe, as figured in Lambert's Pinus, t. 19, (it is probably also the *P. patula* of Chamisso and Schlechtendahl in the 6th volume of the Linnaea, p. 354) many points of resemblance appear so much so, that we doubt of their being specifically distinct.

As the *Pines* form one of the most interesting features in the Botany of California, and as our Herbarium is but poor in specimens of this family, we shall give a list of all the species hitherto known, chiefly compiled from Loudon's excellent *Arboretum et Fruticetum Britannicum*.

1. *P. Sabiniana* (Douglas) ; foliis ternis prælongis, strobilis ovatis echinatis maximis, squamarum apicibus elongato-subulatis incurvis spinosis. *Lamb. Pin. t. 80. Loud. Arboret. Brit. p. 2247, f. 2138—2140.*

HAB. Upper California. Douglas.

2. *P. Coulteri* ; foliis ternis prælongis compressis vaginis filamento-laceris, strobilis oblongis solitariis maximis, squamis cuneatis apicibus elongatis incrassatis lanceolatis mucronatis ancipiti-compressis aduncis. *Don. in Linn. Trans. v. 17. p. 440. "Lamb. Pin. t. 83." Loud. l. c. p. 2250, f. 2146.*

HAB. Mountains of San Lucia, California, at an elevation of from 3-4000 feet above the level of the sea. Dr Coulter.

Mr Loudon and others are disposed to consider this merely a variety of the preceding.

3. *P. insignis*. Dougl.—*Loud. l. c. p. 2265, f. 2171, 2172.*

HAB. California. Douglas.

An accurate specific character and full description of this species are still desiderata.

4. *P. Sinclairii*. Hook. et Arn. supra, et Tab. nostr. XCIII.

HAB. Hills above Monterrey, &c. Mr Sinclair. Messrs. Lay and Collie ?

5. *P. Californica*. Lois.—*Loud. l. c. p. 2268.*

HAB. Monterrey. Colladon.—A very dubious species.

6. *P. muricata* ; foliis ternis ? strobilis inæquilateri-ovatis aggregatis, squamis cuneatis apice dilatatis umbilico elevato mucronatis baseos externæ elongatis ancipiti-compressis recurvato-patentibus. *Don. in Linn. Trans. v. 17. p. 441. "Lamb. Pin. t. 84." Loud. l. c. p. 2269, f. 2180.*

HAB. San Louis Obispo, California, at the height of 3000 feet. Dr Coulter.

7. *P. radiata*. Don.—*"Lamb. Pin. t. 86." Loud. l. c. p. 2270, fig. 2182. Hook. et Arn. supra.—an P. patula Scheide and Deppe ?*

HAB. Sea-shore, Monterrey. Dr Coulter. Douglas.

8. *P. tuberculata*; foliis ternis? strobilis inaequilateri-oblongis aggregatis, squamis apice 4-angulis umbilico depresso truncatis baseos externae majoribus elevatis conicis. *Don*, in *Linn. Trans.* v. 17. p. 442. "*Lamb. Pin. t. 85.*" *Loud. l. c. p. 2270. fig. 2181.*

HAB. Sea-shore, Monterey. *Dr Coulter*. May this not be a variety of the preceding?

9. *P. Lambertiana*. *Dougl. in Linn. Trans.* v. 15. p. 500. "*Lamb. Pin. t. 84.*" *Loud. l. c. p. 2288. fig. 2203 to 2206. Hook. Fl. Bor. Am. v. 2. p. 161.*

HAB. Mountains of San Lucia, near the mission of San Antonio. *Dr Coulter*, (see Loudon, l. c. p. 2251); intermixed with *P. Coulteri*.

10. *P. monticola*. *Dougl.*—" *Lamb. Pin. t. 87.*" *Loud. l. c. p. 2291. fig. 2208, 2209.*

HAB. California? Spokane River (*Douglas*) according to Mr Loudon:—but the Spokane River is not in California. The species, judging from the figure, too closely resembles *P. Lambertiana*.

11. *P. (Abies) Douglasii*. *Sab.*—" *Lamb. Pin. t. 90.*" *Lindl. in Penn. Cycl. p. 35. n. 9. cum Ic. Loud. l. c. p. 2319. Hook. Fl. Bor. Am. II. p. 169. t. 183.*

HAB. I can scarcely doubt but this exists in California, since Mr Douglas describes it as common timber in N. W. America, and he has himself recorded it as growing as far south as lat. 43°.—Dr Lindley I find, in the Penny Cyclopaedia, refers Lambert's *Pinus (Abies) taxifolia*, t. 47, to this species, which I was led to consider a var. of *Pinus (Abies) Canadensis*.

12. *P. (Abies) Menziesii*. "*Lamb. Pin. t. 89.*" *Lindl. in Penn. Cycl. p. 32. Loud. l. c. p. 2321. fig. 2232.*

HAB. North California. *Douglas*.

13. *P. (Abies) grandis*. *Dougl.* "*Lamb. Pin. t. 94.*" *Hook. Fl. Bor. Am. II. p. 163. Loud. l. c. p. 2341. fig. 2245, 2246.*

HAB. Northern California. *Douglas*.

14. *P. (Abies) amabilis*. *Dougl.*—" *Loud. l. c. p. 2342. fig. 2947, 2948.*

HAB. California? *Douglas*. This Pine is not taken up by Lambert, nor by Lindley, and Mr Loudon seems to consider it scarcely distinct from *P. grandis*. No particular habitat is given for it.

15. *P. (Abies) nobilis*. *Dougl.*—" *Lamb. Pin. last fig.*" (*Loud.*) *Hook. Fl. Bor. Am. II. p. 162. Loud. l. c. p. 2342. fig. 2249, 2250.*

HAB. Mountains of northern California. *Douglas*.

16. *P. bracteata*; foliis solitariis bifariam patentibus linearibus mucronatis planis subtus argenteis, strobilibus ovatis, bracteolis trilobis lacinia intermedia longissima foliacea recurvata. *Don*, in *Linn. Trans.* v. 17. p. 442. "*Lamb. Pin. t. 90.*" *Loud. l. c. p. 2348. fig. 2256.*

HAB. California. *Douglas*. Mountains of San Lucia, at an elevation of 3000 feet. *Dr Coulter*.

ORD. LX. ORCHIDEÆ. Juss.

1. *Corallorhiza multiflora* (Nutt.); scapo multifloro, labello cuneato-ovali tripartito recurvo maculato, calcare tuberculiformi, ovario adnato.—*Hook. Flor. Bor. Am.* II. p. 194: *Exot. Flor. t.* 174.—*C. innata*. *Nutt. Gen.* II. p. 197.

ORD. LXI. IRIDEÆ. Juss.

1. *Sisyrinchium mucronatum*. *Mich.*—*Hook. Flor. Bor. Am.* II. p. 207.

HAB. Walamet River; *Tolmie*.

2. *S. grandiflorum* (Douglas); caule stricto compresso foliis erectis vaginantibus longiore, spatha biflora pedunculos subæquante, perianthio late campanulato, filamentis longissimis subulatis basi contracta solummodo connatis erectis demum patentibus.—*Bot. Reg. t.* 1364. *Bot. Mag. t.* 3509; *Hook. Flor. Bor. Am.* II. p. 207.

HAB. Between Burnt and Malheur Rivers, Snake Country; *Tolmie*.

1. *Iris Douglasiana*; imberbis, rhizomate diamet. circiter $\frac{3}{8}$ unc., foliis angustis $\frac{1}{4}$ unc. latis acutis caule solido dodrantali trifloro parum longioribus, spathæ valvis ultrabiuncialibus acutis pedunculos longe superantibus, germine attenuato oblongo angulato, tubo subunciali (circiter $\frac{1}{4}$ unc. libero) limbo circiter sesquiunciali, sepalis angustis subacutis, petalis apice denticulatis. *Herb. mst.*—var. 1. *bacteata*; caule superne bracteato (ut in *I. tenace*) spatha 3-valvi, pedunculis brevioribus, limbo brevior (saturatiore?)—var. 2. *nuda*; caule superne nudo, spatha 4-valvi, pedunculis longioribus, limbo longiore (pallidiore?) *Herb. Mst.*

2. *I. longipetala*; imberbis, foliis angustis (sub $\frac{1}{4}$ unc. latis) erectis acutis caulem solidum bracteatum aliquantulum superantibus, spatha 2-3-flora valvis acutis (circiter $3\frac{1}{2}$ uncialibus) germen oblongum superantibus, pedunculis sesquiuncialibus tubo brevi ($\frac{1}{5}$ unc. libero vix $\frac{1}{16}$ solido), petalis sepalisque angustis longitudine subæqualibus (circiter $2\frac{1}{2}$ unc.) cristas styli duplo fere superantibus, perianthii colore dubio (fulvo? vel flavesciente? vel albicante?) venis cæruleis. *Herb. Mst.*

3. *I. Beecheyana*; rhizomate crasso (diamet. semunc. vel ultra), foliis angustis ($\frac{1}{4}$ unc. latis) erectis acutis subpedalibus (8-12-unc.), spatha foliacea, caule unifloro pedunculum brevem includente, germine attenuato oblongo angulato sulcato tubo tenui subunciali ($\frac{3}{8}$ unc. solido) limbo circiter (vix) biunciali (pallide cæruleo?) *Herb. mst.*—*I. sibirica*. *Hook. et Arn. supra*, p. 160.

HAB. California. *Messrs Lay and Collie*.

For the following observations on N. American *Irides* we are indebted to the Honourable and Rev. Wm. Herbert of Spofforth:—"I believe that no bearded *Iris* has yet been discovered in America, the only exception being the alleged pubescence of the base of the petals (not sepals) in *I. hexagona*; Walt. Fl. Car. a plant erroneously confounded by Michaux with *I. Virjunica*. L.—(germine sub-trigono apiculato, caule 1-2 furcato, furca superiore semper subæquali. *msl.*)—whereas *hexagona*, of which there are several varieties from Texas, New Orleans, and other parts of the southern states (germine hexagono, caule indiviso, floribus inferioribus axillaribus. *msl.*) has not the forked stalk which distinguishes all the numerous varieties of the former. *I. lacustris* is reported to have bearded sepals, but I suspect it will be found to have rather crests, like *I. cristata*, of which it has precisely the aspect, a fact which I shall not have an opportunity of verifying before the spring. I also doubt the truth of any American *Iris* having a fistulous stalk, that remarkable feature being confined to the numerous varieties of *I. Sibirica*. I believe that Pursh's statement, that the Missouriian *Iris* of Lewis has fistulous stalks, simply implies that, whereas that plant has been erroneously named *Sibirica*, *Sibirica* is fistulous, but I place no confidence in the fact as to Lewis's specimen. It is possible that *I. Tolmieana*, (*mihii*)* which in a dry state has much the aspect of *I. Sibirica* v. *sanguinea*, may be Lewis's plant.† *I. Sibirica* v. *sanguinea*, has been separated by Continental botanists under the name *hematophylla*, with an allegation that its scape is solid, a statement which is quite incorrect. It is certainly a variety of *Sibirica*, having not only the fistulous stalk, but every other important feature of that plant, especially the two gibbous teeth near the base of each sepal, which, though not recorded, are, I believe, peculiar to that species, and rarely, if ever, obsolete. *I. Beecheyana* has been confounded by the collector with *I. humilis*, a plant of the Ukraine, found especially near Elizabethgrad; as *Ruthenica* has, on the other hand, been confounded with it in Russia, from whence *Ruthenica* has been sent with the wrong name to the British nurserymen. *I. Tolmieana* may be at once distinguished from *humilis* by its strong thick rootstalk. The plant most nearly allied to *humilis* is *I. Cretica, mihii*, found in Crete, and also near Napoli di Romania, foliis subseptemuncialibus vix lineam latis acutis basi ampliatiss marginibus coriaceo-crispis, 3½ uncias solido ½ unc. ampliatio libero, limbo biancicali. I apprehend it has never been observed that the true character of the genus *Iris* is a short ventricose or somewhat funnel-shaped tube free from the style, and a solid subcylindrical base which in some species is little more than a point of union, and in others is prolonged many inches. This solid part of the tube is in some species of the same texture as the thick parts of the limb, in others of the coriaceous texture of the germen from which it has in that case no decided point of separation outwardly discernible. These important circumstances in the structure appear to have been neglected by botanists. The true stigma of *Iris* is transverse below the crests of the style, and its form is very different in different species: another most important feature which has been neglected, but it cannot be ascertained in dry specimens. In the numerous native specimens I had seen of *I. tenax*, whether from Newfoundland or the N. W. of America, the spathe is one-valved, the second valve being placed like a bracte an inch below, on the stalk. A similar disturbance of the spathe takes place in *I. Douglasiana* v. *bracteata*." W. HERBERT.

* *Iris Tolmieana*; imberbis, foliis anguste (sub ¼ unc. latis) erectis acutis basi purpureis caule (bifloro) solido nudo brevioribus, spatha bivalvi acuta subtriunciali germen alternate oblongum (vix) subæquant, tubo brevi (¼ unc. libero vix lineam solido) sepalis (ultra 2½ uncialibus) petala circiter biuncialia superantibus, styli lobis ultra sesquiuncialibus (cristis bidentatis?), perianthio cærulescente?—*I. hematophylla* var. *Valametiana*. *Herb. in Hook. Flor. Bor. Am. II. p. 206.*

HAB. Prope fluvium Walamet in Fl. Columbian ex parte meridionali tendentem legit *Tolmie*.

† I rather refer this to a race of *Iris* extending from the hills of Kentucky to Canada, *I. Caurina* (*mihii*) folio ½-¾ unc. latis vel ultra, caule bracteato simplici vel ramulo axillari, germine oblongo, tubo brevi amplo parte solida brevissima.

ORD. LXII. TULIPACEÆ. DC.

1. *Fritillaria mutica* (Lindl.); cauli basi longe nudo apice racemoso multifloro, foliis inferioribus verticillatis a lata basi longe angustatis ecirrhoris, floribus secundis tessellatis nutantibus basi obtusis bracteis triplo brevioribus, pedunculis brevissimis recurvis. Lindl. in Bot. Reg. sub t. 1663.

This "has very much the aspect of *F. verticillata*, but the leaves are not cirrhoris, and the flowers are greenish-purple, spotted like *F. Meleagris*, growing in long racemes." Lindl.—In our specimens the pedicels can scarcely be called "very short," being often three quarters of an inch long, and the leaves are lanceolate linear and acuminate, but not with a broad base. The style is, in this and in both the following, trifid, as in the genus species of *Fritillaria*.

2. *F. liliacea* (Lindl.); caule stricto apice racemoso basi folioso foliis oblongo-lanceolatis inferioribus verticillatis superioribus alternis, floribus secundis concoloribus cernuis basi angustatis, pedunculis erectis bracteis longioribus, capsula oblonga apice rotundata basi mutica. Lindl. l. c.

"Closely allied to *F. alba* of Nutt., from which it differs in its broader leaves, and differently shaped capsule. It is a most remarkable plant, with the habit of a lily: its flowers are apparently pale yellow, narrow at the base, and not unlike those of *Lilium pudicum*." Lindl.—Of this we possess two forms: one with the flowers scarcely narrowed at the base, and about as obtuse there as in *F. mutica*, while the pedicels are considerably longer than the bracteis: the other, as Lindley says, has flowers very similar to *Lilium pudicum*, being remarkably narrowed at the base, but the pedicels are in every instance much shorter than the bracteis, while the accompanying specimens in fruit resemble the first variety. All have the pedicels erect, except immediately under the flower, where they are recurved.

3. *F. biflora* (Lindl.); caule basi nudo apice bifloro, foliis verticillatis alternisve oblongo-lanceolatis versus apicem caulis deficientibus, floribus pendulis subcylindraceis concoloribus, pedunculis bracteis brevioribus. Lindl. l. c.

This "resembles *F. tulipifolia* in habit, but differs in its two-flowered stem, and numerous leaves which are either alternate or verticillate." Lindl.—Our specimens, in habit as well as in the colour of the flowers, approach so closely to *F. Kamtschatcensis*, that they are scarcely to be distinguished but by the leaves of the perianth being quite destitute of the curious crested veins, almost peculiar to that species, and which are represented at Tab. 193. A. of the Flor. Bor. Am.

1. *Erythronium grandiflorum* (Pursh.); foliis oblongo seu elliptico-lanceolatis vix punctatis, pedunculo 1-paucifloro, sepalis lanceolatis valde acuminatis fere ab ima basi reflexis, stigmate tripartito.— β . *giganteum*; cauli 2-5 floro, floribus flavis. Hook. Flor. Bor. Am. II. p. 1820.—*E. giganteum*. Lindl. in Bot. Reg. sub. t. 1786.

HAB. β . Blue Mountains, Snake Country; Tolmie.

Dr Lindley distinguishes the var. β , his *E. giganteum*, from the type of the species, by the irregularly branched scape, the leaves of the perianth reflexed only from the middle, and the stigma 3-lobed, not 3-partite: but there is no difference whatever in the two last points, and as to the first, these are insensible gradations from a single to a several flowered scape.

CALOCHORTUS. PH.

Flores erecti, explanati, patentes; sepala glabra convoluto-acuminata. Petala majora, rotundata, plana, medio barbata, basi maculata glabra. Stylus nullus. Stigmata 3. Capsula triangularis coriacea. Semina serie simplici affixa, plana, testa suberosa.—*Bulbi tunicati, foliis convoluti-acuminatis rigidis.* Lindl.

1. *C. venustus* (Benth.); caule paucifolio subtrifloro, sepalis erectis, petalis præter fasciculum pilorum glabris basi rubris et versus apicem macula rubra notatis. Benth. in Hort. Soc. Trans. N. S. I. p. 412. t. 15. f. 3.

Sepals straight. Petals cuneate-subrotund, crispid at the margin, white, yellowish at the base, and then furnished with a cuneate blood-red canal which is yellow at the apex; above this, and on the expanded portion of the petal is a large round blood-red stain. It is a very beautiful species.

2. *C. splendens* (Benth.); caule 3-5-floro, sepalis revolutis, petalis intus sparse pilosis in parte superiore glabris basi maculatis extus ecostatis. Benth. in Hort. Soc. Trans. I. N. S. p. 411. t. 15. f. 1; Lindl. Bot. Reg. t. 1676.

Petals of an uniform lilac colour. It is closely allied to *C. venustus*, from which, however, it differs not only in the colour of its petals, but in its flowers being somewhat smaller, and its sepals rolled back from the point; the arrangement of the hairs upon its petals is also very different. In *C. venustus* there is, just above the base of the petals, an oblong tuft of rather loose hairs, which gradually scatter themselves over the petal for a short distance round the tuft; but in *C. splendens* the tuft is smaller, and composed of very short firm hairs, collected into a compact oblong mass, almost resembling a wart, and separated by a smooth interval from the scattered hairs of the petal, which are long and numerous.

3. *C. luteus* (Dougl.) caule subtrifloro, foliis convolutis acuminatis pedunculis gracilibus brevioribus, sepalis apice recurvis, petalis cuneatis apice rotundatis medio transverse barbatis. Lindl. in Bot. Reg. t. 1567.

The flowers are rather smaller than in the two preceding species, and of a deep yellow, greenish about the middle and at the base, and covered near the middle with red dots.

4. *C. uniflorus*; caule humili versus basin 1-3-phylo subunifloro, pedunculo elongato gracili folia superante, sepalis apice patulis, petalis cuneatis apice rotundatis denticulatis basi dense barbatis e basi ad medium sparse pilosis superne glabris. (TAB. XCIV.)

This is most allied to *C. elegans*, but has very differently shaped sepals and petals, and the stem has scarcely any tendency to produce more than a single flower. We omit here *C. elegans*, *macrocarpus*, and *nitidus*, said to be from California, for, according to the stations given by Douglas, none of them were found in that country: descriptions of them are given in the Flor. Bor. Am. II. p. 183. With regard to the variety of *C. elegans* noticed in the Flor. Bor. Am. I. p. 183, as found by Mr Tolmie on the banks of the Walamet river, we are now satisfied it is perfectly distinct from either α . or β . of Douglas, and that it forms a new species, which may be called *C. Tolmiei*; it is closely allied to *C. nitidus*, (Dougl. in Hort. Soc. Trans. VII. t. 9,) but the flowers are rather smaller, not in an umbel, but in a racemose panicle, and the cuneate-obovate petals are densely bearded to the very apex, much more so than in any other known species of the genus.

Fig. 1. Petal:—magnified.

CYCLOBOTHRÆ. Succet.

Flores nutantes ventricosi vel campanulati. *Sepala* glabra, acuta. *Petala* majora et dissimilia, barbata, infra medium fovea glabra nectarifera alte impressa extus gibbosa. *Stigmata* 3. *Capsula* triptera, coriaceo-membranacea. *Semina* serie simplici affixa, angulata.—*Bulbi tunicati, foliis planis acuminatis.*

1. *C. pulchella* (Benth.); umbellis 2-3-floris, pedunculis bracteis brevioribus, floribus globosis, petalis ovatis obtusis serrulato-fimbriatis fovea valde excavata extus callosa, sepalis ovato-lanceolatis acuminatis quam petala vix brevioribus. Benth. Hort. Soc. Trans. N. S. I. p. 415. t. 14. f. 1; Lindl. in Bot. Reg. t. 1662.

Flowers yellow, the sepals greenish and striated with green.

2. *C. alba* (Benth.); umbella 2-3-flora, pedunculis bracteis brevioribus, floribus oblongis inflatis, petalis ovatis obtusissimis margine nudiusculis fovea leviter impressa sepalis ovato-lanceolatis duplo longioribus. Benth. in Hort. Soc. Trans. N. S. I. p. 413. t. 14. f. 3; Lindl. in Bot. Reg. t. 1661.—*Calochortus albus.* Dougl.

Flowers white. Sepals of a yellowish-green. The flowers do not appear to us to be oblong, but when expanded to be broadly ovate, nearly as in *C. pulchella*.

3. *C. paniculata* (Lindl.); floribus solitariis, pedunculis bracteis subæqualibus floribus oblongis; petalis angustis obtusis subciliatis dimidia superiore calvis fovea leviter excavata sepalis ovato-lanceolatis acuminatis duplo longioribus. Lindl. in Bot. Reg. sub t. 1662.

Præcedenti affinis; caule, panicula, floribus solitariis, pedunculis bracteis longioribus, alabastris angustis cæterisque satis distincta. Flores albi. Lindl. l. c.—Of this we know nothing, unless it prove to be a mere form of *C. alba*, with which it appears to us to agree in almost every important character, as well as in the white flowers.

ORD. LXIII. ASPHODELEÆ. Juss.

1. *Allium stellatum.* Fras.—Hook. Flor. Bor. Am. II. p. 184. Ker in Bot. Mag. t. 1576.

2. *A. acuminatum* (Hook.); foliis linearibus brevibus paucis radicalibus, scapo humili terete, umbella pluriflora patente, sepalis roseis subovalibus acuminatissimis basi gibbosis interioribus minute serrulatis apicibus recurvis, staminibus conformibus perianthio duplo fere brevioribus, ovario 3-lobo, stigmate brevi trifido.—Hook. Flor. Bor. Am. II. p. 184. t. 196.

HAB. Blue Mountains, Snake Country, abundant; Mr Tolmie.

3. *A. Douglasii* (Hook.); bulbo late ovato, foliis binis lanceolato-falcatis striatis basi longe angustaque attenuatis radicalibus, umbella multiflora patente, sepalis (roseis) ovatis

longe anguste acuminatis carinatis rectis stamina conformia subæquantibus, ovario trilobo, stylo integro. *Hook. Flor. Bor. Am. II. p. 184. t. 197.*— β . foliis scapo longioribus. *Hook. l. c.*

HAB. β . Between Burnt and Malheur Rivers, Snake Country. *Tolmie.*

4. *A. falcifolium*; humili, foliis binis lanceolatis recurvo-falcatis striatis basi attenuatis radicalibus, umbella densa multiflora patente, sepalis (roseis) lanceolatis acuminatis undulatis carinatis apice recurvis omnibus margine undique minute glanduloso-serrulatis stamina conformia longe superantibus, ovario trilobo, stylo integro.

This was collected by Douglas in California, probably at no great distance from the coast. It is closely allied to *A. Douglasii*, but differs from that species by its more humble stature, shorter and much more falcate leaves, more compact umbel, much larger flowers, narrower and thinner sepals, which are, moreover, undulated and serrulate with minute glands and almost twice as long as the stamens.

HESPEROSCORDON. *Lindl.*

Perianthium subcampanulato-rotatum, bifidum, cum pedicello articulat. *Stamina* 6, fertilia; filamentis dilatatis membranaceis æqualibus, e fauce exortis, basi subconnatis. *Squamæ hypogynæ* nullæ. *Ovarium* sessile, 3-loculare, polyspermum, apice 3-glandulosum. *Stylus* teres, cum ovario articulat. *Stigma* simplex. *Capsula* trilobularis, 3-valvis, polysperma, valvis medio septiferis. *Semina* nigra angulata, subcrustacea.—*Herbæ cornis induviatis. Flores umbellati. Lindl.*

1. *H. lacteum* (*Lindl.*) umbella multiflora laxa, floribus exterioribus pedicello 2-4-plo brevioribus, perianthii laciniis stellatis, ovario subgloboso. *Lindl. in Bot. Reg. t. 1639.*

This differs from *H. Lewisii*. *Hook. Flor. Bor. Am. II. p. 185. t. 198*, by the umbel being much fewer flowered and lax, the pedicels conspicuously longer than the flowers, and slender, and the perianth not campanulate. In *H. Lewisii* the ovary is so attenuated at the base as to be almost stipitate. In the centre of the umbel the flowers expand at a later period, and are on shorter pedicels than the outer ones.

CALIPRORA. *Lindl.*

Perianthium subcampanulatum, cum pedicello continuum, 6-partitum. *Stamina* 6, omnia fertilia, fauce exorta, verticillata, tria breviora: filamenta petaloidea, biloba, antheris inter lobos sessilibus. *Squamæ hypogynæ* nullæ. *Ovarium* stipitatum, 3-loculare, polyspermum. *Stylus* simplex. *Stigma* trilobum. *Capsula* membranacea, triptera. *Semina* obovata, nec atra nec crustacea.—*Folia radicalia lineari-ensiformia, acuminata, canaliculata, debilia, scapo longiora. Scapus erectus teres. Flores umbellati, lutei, laciniis medio extus fusco-purpureis. Bractæ spathacæ, ovatæ, scariosæ, pedicellis multo breviores. Lobi filamentorum acuti.*

1. *C. lutea*. *Lindl. in Bot. Reg. t. 1590.*

The seed-coat is very unlike that of *Allium* or indeed any of the *Asphodeleæ* as limited by Brown, and rather resembles in that respect the *Tulipacæ*: but we have not seen it perfectly mature. *Lindley*, from whom the remainder of the above character is taken, takes no notice of it.

TRITELEIA. Hook.

Perianthium tubulosum, subinfundibuliforme, marcescens. *Stamina* 6, duplici serie inserta: superiora petalis opposita. *Squamæ hypogynæ* nullæ. *Ovarium* sæpius stipitatum, raro sessile, polyspermum; *stigmatibus* trilobo.—*Herbæ cormis induviatis. Flores umbellati.*

1. *T. laxa* (Benth.); foliis linearibus glaucis scapo longioribus, involucro pedicellis duplo brevioribus, pedicellis laxiusculis perianthio basi angustato æqualibus, ovario longe stipitato, filamentis 6 decurrentibus basi cristatis, umbella multiflora.—Benth. in *Hort. Soc. Trans. N. S. I. p. 413, t. 15. f. 2. Lindl. in Bot. Reg. t. 1685.*

This is readily distinguished from *T. grandiflora* by the attenuated base of its perianth, and the curved stalk to its ovary, two or three times longer than the ovary itself, and half the length of the perianth; in *T. grandiflora* the perianth is wide at the base, almost indeed campanulate, and the stalk of the ovary is not half so long as the ovary, and many times shorter than the perianth. Although there be little difference in the width of the flowers, the length of the perianth of *T. laxa* is twice that of *T. grandiflora*.

2. *T. peduncularis* (Lindl.); foliis linearibus scapo erecto bipedali brevioribus, involucro pedicellis quater brevioribus, pedicellis strictis perianthio obconico quater longioribus, ovario breviter stipitato, limbo perianthii tubo longiore, umbella multiflora. Lindl. in *Bot. Reg. sub. t. 1685.*

The flowers of this species are of a pale blue, not purple colour as in the two others: each sepal is marked along the back with a purple line.

BRODIEA. Sm.

Perianthium tubuloso-campanulatum, sexfidum, persistens. *Stamina* 3 ad faucem et laciniis tribus internis opposita, cum squamis tribus (stamin. abortivis) alternantia. *Ovarium* trigonum, basi attenuatum. *Stylus* filiformis. *Stigma* trifidum. *Capsula* obovata, stipitata, 3-locularis, loculicido-trivalvis. *Semina* cuicque loculo 4-5, peltata.—*Flores umbellati.*

1. *B. grandiflora* (Sm.); pedicellis umbellatis bracteis longe superantibus, squamis perianthii oblongis obtusissimis integris.—Sm. in *Lin. Soc. Trans. X. p. 2. Bot. Reg. t. 1183 Bot. Mag. t. 2877.* (non Pursh, nec Nutt.)—*B. coronaria. Salisb.*

HAB. California; Douglas. Dry plains of the Wallamet river; Tolmie.

2. *B. congesta* (Sm.); floribus subcapitatis, bracteis pedicellos superantibus, squamis perianthii lanceolatis acutis bifidis.—Sm. in *Lin. Soc. Trans. X. p. 3. t. 1.*

ORD. LXIV. ASPARAGÆE. Juss.

1. *Smilacina stellata*, Desf.—*Convallaria stellata. L.—Bot. Mag. t. 1043.*

2. *S. racemosa*, Desf.—*Convallaria stellata. L.—Bot. Mag. t. 899.*

ORD. LXV. MELANTHACEÆ. Br.

1. *Zigadenus chloranthus*. Richard., *App.* 12. *Hook. Flor. Bor. Am.* II. p. 177.—*a*; minor.—*Z. commutatus*, *Schult. Syst. Veget.* VII. p. 1560. *Hook. et Arn. supra*, p. 161.—*Z. glaberrimus*, *Ker in Bot. Mag.* t. 1680 (non Mich.)—*β. major*; foliis longioribus, scapo paniculato.—*Z. glaberrimus*, *Hook. et Arn. supra*, p. 160 (non Mich.)

Both varieties are in Mr Douglas' collection from California.

1. *Trillium sessile*, L.—*Mich. Flor. Bor. Am.* I. p. 215. *Bot. Mag.* t. 40.—*β. giganteum*; foliis floribusque fere quadruplo majoribus.

The var. *β.* only is in Mr Douglas' collection, and what is remarkable, no form of this species appears to have been elsewhere observed on the west side of the Rocky Mountains. The stem is from eight to fifteen inches high, the leaves three or four inches long, and $2\frac{1}{2}$ or $3\frac{1}{2}$ broad, spotted like those of the plant from the United States. The flowers are from $2\frac{1}{2}$ to 3 inches long, and purple, as figured in the *Botanical Magazine*.

ORD. LXVI. JUNC. Juss.

1. *Luzula campestris*, var. *congesta*.—*Hook. Flor. Bor. Am.* II. p. 188.

1. *Juncus Menziesii* (Brown); caule erecto tereti folioso, foliis lineari-acuminatis supra canaliculatis, capitulis terminalibus globosis 1-3 bractea exteriori plerumque foliacea et capitula superantibus, sepalis ovatis vel oblongis capsulam obovatam nitidam muticam æquantibus dorso viridibus enerviis margine castaneo membranaceo versus apicem involuto.—*a. Menziesii*; sepalis lato-ovatis obtusis. *Brown*,—*Hook. Flor. Bor. Am.* II. p. 192.—*β. Californicus*; sepalis oblongis acuminatis, foliis angustioribus.

We have only the second variety from California. In the *Flor. Bor. Am.* this was principally distinguished from *J. castaneus* by the broad sepals of *a.*, and the capsule as long as the perianth. In *J. castaneus*, however, the sepals are only about half the length of the capsule, and are entirely brown, membranous and 3-nerved.

ORD. LXVII. FLUVIALES. Rich.

1. *Zannichellia palustris*, Linn.

ORD. LXVIII. GRAMINEÆ. Juss.

1. *Beckmannia erucaformis*, Host.

1. *Phalaris minor*? Retz.

The specimens are very young.

LOPHOCHLÆNA. Nees.

GEN. CHAR. *Spicula* multifloræ, rhachilla articulata. *Glumæ* 2, membranaceæ, obscure 1-3-nerves, flosculis breviores. *Flosculi* alio truncato inserti, omnes perfecti: *valvula inferior* chartaceo-rigida, plurinervis, apice membranacea, bifida, lobis prismoso-dentatis, inter lobos setigera seta recta; *superior* plano-complicata lateribus in medio dentato-laceris apicem versus serratis; apice emarginato. *Lodiculae* truncatæ, connatæ. *Stamina* 3, (antheris violaceis.) *Ovarium* oblongo-lineare, glabrum; *styli* breves, discreti; *stigmata* parva, plumulosa.—Inflorescentia: *racemus simplex, secundus*. Gramina mollia. Folia brevissima. *Spiculae bromoideæ, oblongo-lineares, speciosæ*. *Locus* inter Poas Glycericas juxta Glyceriam, cui mediante *Glyceria* (*Windsoria*) pallida consiliatur. Forsan hæc *W.* pallida, amplificato generis nostri caractere, isti potest connecti.—Nees.

1. *L. Californica*, Nees v. *Esenb. in Tayl. Ann. of Nat. Hist. v. 1. p. 283.* (TAB. XCV.)

TAB. XCV. Fig. 1. Flower; fig. 2. two different views of the inner or superior valve:—magnified.

1. *Bromus carinatus*; annuus, caule erecto, foliis linearibus pilosis vaginis deflexo-pilosis, racemo composito ramis 1-3-nis oligostachyis, spiculis sessilibus lanceolatis valde compressis, glumis lanceolatis acutissimis muticis 3-5-nerviis carinatis, flosculis patulis, glumella exteriore pubescente lanceolata ex apice bifido longe setigera carinata obscure 7-striata, interiore bicarinata ad carinas ciliata, caryopsi hinc canaliculata.

Perhaps this ought to be referred to the Genus *Ceratochloe*, but the straight seta, or awn, is almost as long as the floret, and, with the exception of the compressed spikelet, the character is entirely that of *Bromus*.

1. *Melica imperforata*; panicula composita et decomposita (ante anthesin contracta), pedicellis nudis scabro-puberulis, spiculis oblongis bi-trifloris, glumis inæqualibus obtusiusculis, superiori flosculos subæquante, valvula inferiori flosculorum perfectorum apice brevi spatio membranaceo-appendiculata 7-nervi, flosculo supremo sterili sublineari antheriformi, foliis anguste linearibus vaginisque scabris. Nees.—*Trin. Gram. Ic. t. 355.*—*Melica colpodioidea*. Nees v. *Esenb. in Tayl. Ann. of Nat. Hist. v. 1. p. 283.*—*Poa viridi-purpurea*. Hook. et Arn. mss.

This has certainly not exactly the habit of a *Poa*, to which we had been disposed to refer it; and the flowers are fewer in number than usually occur in that Genus. In appearance it approaches slightly to *Eragrostis Koenigii*, and *E. interrupta*, but it unquestionably is not a species of *Eragrostis*. The glumes are membranaceous, but the florets are of a firm texture, greenish and tinged with purple, their margins white and membranaceous. We have only seen the upper portion of the plant, although the specimens are about two feet in length; the panicle is from 9 inches to a foot long. We adopt the Genus to which we find that Trinius, and since, Nees von Esenbeck, have referred it.

1. *Poa serotina*, Gaud.—*Poa fertilis*, Host, *Gram. 3. t. 14.*

Our plant resembles that of Gaudin in the spikelet, but it is more rigid, and the inflorescence is an interrupted, contracted, narrow, linear, erect panicle, the lower branches of which are shorter than the internodes.

1. *Stipa avenacea*, L.

1. *Brizopyrum spicatum*.—*Uniola spicata*, Lin.—*U. stricta*, Torr. in *Ann. Lyc. I. p. 55.*—*U. multiflora*, Nutt.—*Festuca distichophylla*, Mich.—*Poa Michauxii*, Kunth.

We can see no difference between the *Uniola spicata* of Linn. and Torrey's Flora, and the *U. stricta* of the latter author. As in *Brizopyrum* the panicle is unisexual.

2. *B. Douglasii*: glabrum, culmis fasciculatis radicanibus rigidis simplicibus, foliis erectis rigidis linearibus apice convoluto-subulatis culmum superantibus, paniculis (masculis) confertis ovatis, spiculis ovatis compressis subtrifloris glabris lævibus, flosculis imberbibus, glumella exteriore 1-2 nervi, carina margineque scabris.—*Poa Douglasii*. Nees v. Esenb. in *Tayl. Ann. of Nat. Hist.* v. 1. p. 284.

This is remarkable for its erect foliage, longer than the culms, and the short compact panicles somewhat resembling those of *Phalaris Canariensis*. Nees v. Esenbeck considers it a *Poa*, and allied to *P. tricolor*, *conformis*, *curvula*, *abbreviata*. Br. §c.

1. *Hordeum pratense*, Huds.

2. *H. pusillum*, Nutt.

POLYANTHERIX. Nees.

(TRIB. Triticæ. Locus inter *Elymum* et *Ægilopem*.)

GEN. CHAR. *Rhachis* spicæ articulata. *Spiculæ* disticho-alternæ, geminæ, rhachi oblique parallelæ, pluri-floræ, subsessiles. *Glumæ* binæ, collaterales, hinc ad speciem quaternæ, profunde bifidæ, lacinis bifidis trifidiæve omnibus longe setaceis, tertia (ubi adest) minima. *Flosculi* 3-4, inferiorum uno alterove sterili glumis simili, tabescente. *Fertitium valvula inferior* chartacea, ex apice bidentato bisetove longe setigera; *superior* minor, integra, marginibus inflexis, flexure angulis ciliatis. *Lodicula* lanceolata, integra, ciliatæ. *Stamina* 3, antheris brevibus. *Ovarium* apice hirsutum; *styli* distantes; *stigmata* plumosa.—Gramina specie *Elymi* et *Hordei*. Nees.

1. *P. Hystrix*, Nees v. Esenb. in *Tayl. Ann. of Nat. Hist.* v. 1. p. 284.—*Ægilops Hystrix*. Nutt. Gen. 1. p. 86.

ORD. LXIX. EQUISETACEÆ. DC.

1. *Equisetum hyemale*, L.—*E. Bot.* t. 915.

HAB. San Francisco. Dr Sinclair.

2. *E. fluviatile*, L.—*E. Bot.* t. 2022.

HAB. San Francisco. Dr Sinclair.

ORD. LXX. LYCOPODIACEÆ. Juss.

1. *Tmesipteris truncata*, Desv.—Hook. et Grev. *Lycop.* in *Bot. Misc.* v. 2. p. 363.—T. Tannensis. Labill. *Fl. Nov. Holl.* 2. p. 105. t. 252. (excl. syn.).—*Psilotum truncatum*. Br. *Prodr.* p. 104.

Nothing has surprised us more than finding that a species of a Genus, hitherto considered as exclusively inhabiting the Polynesian islands, should be detected in the northern continent of the New World. The collection contains several specimens; and though it is barely possible that these may have been accidentally mixed up with the herbarium; yet seeing that every other plant is unquestionably *Californian*, or from the immediately adjacent territories, and that Mr Douglas had no intercourse with New Holland, where alone the species has hitherto been found, we are bound to believe it a Californian plant, and to introduce it as such. The specimens are very perfect, and some of them in fructification.

ORD. LXXI. FILICES. *Juss.*

1. *Polypodium* (*Marginaria*) *Californicum*, *Kaulf.*—*Hook. et Arn. supra*, p. 161.—*Marginaria*, *Presl.*

San Francisco. *Dr Sinclair.*—*Presl* refers this to his genus *Marginaria*, whose essential character is to have the upper veinlets uniting with the nearest opposite ones, so as to form hexagonal areolæ, in which is situated the sorus at the extremity of a lower veinlet. But in this plant the veinlets are sometimes entirely free, and when the union does take place, it is only near the margin.

2. *P.* (*Eupolypodium*) *intermedium*; fronde lato-lanceolata membranacea pellucida fere ad rachin pinnatifida, lacinii oblongis obtusis æquilatis serratis glabris, venulis distinctis liberis rarissime sub margine anastomosantibus, soris ovalibus solitariis.

San Francisco. *Dr Sinclair.*—Allied to the preceding *P. Californicum*, and to *P. vulgare*; from the former it differs in the almost entirely free veinlets, from the latter in its oblong or oval sori, and from both in the pellucid, not opaque frond, and in the lacinie becoming smaller at the base. Although this must be referred to the true *Polypodium* of *Presl*, yet the veinlets do occasionally unite so as to form an elongated and somewhat hexagonal areola in which a veinlet, terminated by a sorus, is included.

1. *Gymnogramma triangulare*, *Kaulf.*—*Hook. et Grev. Ic. Fil. t. 315. Hook. et Arn. supra*, p. 161.

San Francisco. *Dr Sinclair.*

1. *Aspidium* (*Polystichum*) *munitum*, *Kaulf.*—*Hook. et Arn. supra*, p. 162.

San Francisco. *Dr Sinclair. Douglas.*

2. *A.* (*Lastrea*) *patens*, *L.*—*Sw.*—*Willd.*—*Polypodium nymphae. Schkuhr, Fil. t. 34.*

San Francisco. *Dr Sinclair.*

3. *A.* (*Lastrea*) *argutum*, *Kaulf.*—*Hook. et Arn. supra*, p. 162.

San Francisco. *Dr Sinclair. Douglas.*

1. *Woodwardia radicans*, *Willd.*—*Hook. et Arn. supra*, p. 162.

HAB. San Francisco. *Dr Sinclair. Douglas.*

1. *Pteris lanuginosa*; frondis tripartitæ ramis bipinnatis, pinnulis subtus piloso-lanugo-

ginosis lineari-lanceolatis inferioribus pinnatifidis, laciniis obtusis, stipite muricato, rachibus partialibus lanuginosis. *Kauf.*—*Willd. Sp. Pl. v. 4. p. 403. Kauf. Enum. Fil. p. 189.*

San Francisco. *Dr Sinclair.*—Very nearly allied to *Pt. aquilina* and *Pt. caudata*.

2. *P. (Allosorus, Presl.) andromedæfolia*; frondibus bipinnatis, pinnis patentibus, pinnulis subtrifoliatis, foliolis oblongo-ovatis nervosis margine revolutis. *Kauf. Enum. Fil. p. 188.*

California. *Chamisso. Douglas.*—"Caudex repens, ramosus, crassitie pennæ columbinæ, paleis ferrugineis dense tectus, radicularis filiformibus tomentosus fibrillosis instructus. Frondes 4-6 pollicares (fere ad pedalem). Pinnae remotæ, patentæ, inferiores bipinnatæ, superiores pinnatæ, pinnulis inferioribus trifoliatis; foliola bilinearia, ovata, obtusa, petiolata, supra nervosa, margine revoluta, caduca. Stipes 2-4-pollicaris, teres, crassitie chordæ mediocris, paleis sparsis obsitus. Rachis partiales tenuissimæ, fragiles. Indusium breve." *Kaufuss.*—A very distinct and well-marked species.

ORD. LXXII. MUSCI. *Juss.*

1. *Neckera Californica, Hook. et Arn. supra, p. 162.*

San Francisco. *Dr Sinclair.*

1. *Pterogonium julaceum, Hedw.*

San Francisco. *Dr Sinclair.*

ORD. LXXIII. LICHENES. *Ach.*

1. *Borreria leucomela, Ach.*

San Francisco. *Dr Sinclair.*

1. *Ramalina homalea, Ach.*—*Hook. et Arn. supra, p. 163.*

1. *Usnea barbata, Ach.*

San Francisco. *Dr Sinclair.*

ORD. LXXIV. ALGÆ.* *Juss.*

TRIBE I. FUCOIDEÆ.

1. *Fucus vesiculosus, L.*—*Harv. supra, p. 163.*—*β. spiralis. Turn.—Ag. Syst. p. 276.*

San Francisco. *Dr Sinclair.*

* By the Honourable W. H. Harvey.

2. *F. furcatus*, *Ag. Syst. p. 279. Harv. supra, p. 163.*

San Francisco. *Dr Sinclair.*

1. *Cystoseira Douglasii* (*Harv.*); caule tenui lævi alternatim ramoso, ramis decompositis pinnato-dichotomis, axillis rotundatis, vesiculis ellipticis concatenatis in ramulis immersis.

Stem slender, $\frac{1}{2}$ a line to a line in diameter, compressed, smooth, 12 inches long or more, furnished with alternate, much divided branches, at distances of an inch or upwards; the branches pinnated, the lower pinnæ simple or forked, the upper multifid in a sub-dichotomous manner; all the axils rounded and the ramuli erect apices attenuate. Vesicles as large as vetch-seed, 4-12 or more together, forming a moniliform chain, imbedded in the most of the ramuli. Receptacles and root unknown. *HAB. Monterrey. Douglas.*

1. *Halydrys osmundacea* (*Harv.*)—*Fucus osmundaceus*, *Turn. Hist. t. 105.*—*Cystoseira osmundacea*, *Ag. Syst. p. 287.*

Monterrey. Douglas.

TRIBE 2. LAMINARIÆ.

1. *Laminaria saccharina*, *Lamour.*—*Fucus saccharinus*. *Linn.—Turn. Hist. t. 163.*

San Francisco. *Dr Sinclair.*—The lamina of the frond is remarkably narrow.

1. *Macrocystis pyrifera*, *Ag. Syst. p. 292.*—*Fucus pyriferus*. *Linn.—Turn. Hist. t. 110.*

San Francisco. *Dr Sinclair.*

2. *M. Menziesii*, *Ag. Syst. p. 293.*—*Fucus Menziesii*. *Turn. Hist. t. 27. Harv. supra, p. 163.*

San Francisco. *Dr Sinclair.*

1. *Alaria esculenta*, *Grev.*—*Fucus esculentus*. *Turn. Hist. t. 117.*

San Francisco. *Dr Sinclair.*—The specimen very imperfect.

TRIBE 3. FLORIDÆ.

1. *Delesseria platycarpa*, *Ag. Syst. p. 252.*—*Fucus platycarpus*. *Turn. Hist. t. 144.—Harv. supra, p. 163.*

Monterrey. Douglas.

1. *Hymenema fissa*, *Grev.*—*Fucus venosus*. *Turn. Hist. t. 138.—β. marginata, Harv. capsulis marginalibus.*

A very remarkable variety, perhaps a distinct species. The veins are stronger and more prominent than in Cape specimens, and the capsules confined to the margin or borne on small, roundish, marginal processes or leaflets. The granuliferous specimens present no remarkable characters. *HAB. San Francisco. Dr Sinclair.*

1. *Plocamium coccineum*, Lyngb.—*Fucus coccineus*, Turn. Hist. t. 59. Harv. supra, p. 163.

San Francisco, Dr Sinclair.

1. *Rhodomenia polycarpa*, Grev. Crypt. Fl. t. 352. Harv. supra, p. 164.

STENOGRAMMA. Harv.—(Gen. Nov.)

Frons membranacea, rubra, plana, enervis. *Fructificatio*: 1.—? 2. receptacula linearia, nerviformia, in frondem sessilia, granulis minutissimis repleta.

1. *S. Californicum*, Harv.

Root unknown. *Stem* minute, cylindrical, gradually expanding into a broadly cuneate, dichotomously cleft, flat, membranaceous frond about six inches long; the segments cuneate, about half an inch broad, obtuse at the apices; the axils rounded. *Margin* entire, bearing here and there linear-oblong or slightly lanceolate leaflets (which perhaps in older specimens become dichotomously cleft?) *Fruit*, so far as known, consists in linear, dark-red, elevated receptacles, not half a line in breadth, and from half an inch to upwards of an inch in length, extending longitudinally through the centre of the terminal segments, or of the marginal leaflets, and resembling a very strong prominent rib. These receptacles are completely filled with a dense mass of minute granules, their coat or periphery is opaque and resembles that of the frond. *Colour* a full red; substance membranaceous; reticulation minute.

HAB. San Francisco, Dr Sinclair.—A single specimen only of this very remarkable plant exists in the herbarium, and on it I have ventured to establish a new genus. In habit it so closely resembles *Phyllophora rubens*, that it might easily be passed over as that plant. But the fructification is not only totally different from that of *Phyllophora*, but resembles nothing with which I am acquainted among the Algae, while it bears a striking resemblance to the *lirelle* of the genus *Opegrapha*, among Lichenes. From the minute size of the sporules contained in the mass with which the receptacles are full, I am induced to consider these curious bodies as secondary fructification, the primary being probably spherical capsules. The affinities of the genus are with *Phyllophora*.

1. *Laurencia pinnatifida*, Lamour.—*Fucus pinnatifidus*. Turn. Hist. t. 21.

Monterrey, Douglas.

1. *Chondrus vermicularis*? Grev.—*Fucus vermicularis*. Turn. Hist. t. 221. Harv. supra, p. 164.

Monterrey, Douglas.

2. *C. affinis* (Harv.); fronde plana dichotoma, segmentis cuneatis, margine subinflexo, capsulis sphaericis sparsis.

1-2 inches high, dark purple, densely tufted. It is allied to *C. crispus*, but differs in the spherical capsules abundantly scattered over the frond and prominent on both surfaces, and in having the margin somewhat inflexed; by which latter character it approaches *C. canaliculatus*, but in that species the capsules are marginal.

1. *Gelidium corneum*, Lamour.—*Fucus corneus*. Turn. Hist. t. 257. Harv. supra, p. 164.

San Francisco, Dr Sinclair. Monterrey, Douglas. Two varieties exist in the herbarium.

2. *G. lanceolatum*, Harv. *supra*, p. 164.

Monterrey, Douglas.

1. *Gigartina canaliculata* (Harv.); fronde erecta compressa canaliculata basi simplici, apice creberrime bipinnata, pinnulis patentibus subulatis vel multifidis, ramulis aculeiformibus, capsulis inter aculeos sessilibus.—*Gelidium corniculatum*, Harv. *supra*, p. 164. (not of Grev.)

Root accompanied by creeping fibres. Stem erect, 2-3 inches high, a line broad, compressed, channelled on one side, linear, simple or once or twice forked, and bare of ramuli for three-fourths of its length; thence upwards it is pinnated, or in old specimens bipinnated, the pinnæ and pinnule alternate, horizontal, subulate, very acute; the pinnule in some specimens simple, in others cleft at the apex into 3-5 or more divaricating spine-like ramuli. Capsules minute, depressed in the centre, of the same substance and colour as the frond, seated on the multifid pinnules. Substance cartilaginous. Colour a dull purple, paler in the ramuli, becoming much darker in drying.—In a young state this species bears a striking resemblance to Turner's figure of *Fucus corniculatus*, t. 182, and at p. 164 of the present work I have noticed it as such. But more perfect specimens, since received, prove that it is perfectly distinct from that and every other described species. The channelled stem, naked for its greater length, and the dense head of multifid spine-like ramuli sufficiently mark the species.

San Francisco, Mr Douglas.

2. *G. muricata* (Harv.); pusilla, fronde filiformi cartilaginea subdichotoma spinulis minutissimis acutis muricata, apicibus divaricatis acutis, capsulis sphaericis sessilibus.

An inch high, densely tufted, cylindrical, irregularly divided in a subdichotomous manner, the upper divisions patent, the whole frond rough with minute thorns. Capsules large, spherical, solitary on the ramuli. Colour a deep purple.

San Francisco, Dr Sinclair.

TRIBE 4. GASTROCARPÆ.

1. *Iridæa papillata*, Grev.—*Sphaerococcus papillatus*, Ag. p. 222.—Harv. *supra*, p. 165.

San Francisco, Dr Sinclair. Monterrey, Douglas.

2. *I. Radula*, Grev.—*Fucus bracteatus*, Turn. *Hist. t.* 25.

San Francisco, Dr Sinclair. Monterrey, Douglas.

3. *I. stiriata*, Grev.—*Fucus stiriatus*, Turn. *Hist. t.* 16.

TRIBE 5. ULVACEÆ.

1. *Porphyra vulgaris*, Ag.

San Francisco, Dr Sinclair.

1. *Diatoma obliquatum*, Ag.—*Conferva obliquata*, Eng. *Bot. t.* 1869.

Parasitical on *Stenogramma Californicum*, on which plant I also perceived a specimen of that curious minute genus of Zoophytes, *Actinocyclus*.

MEXICO.—SUPPLEMENT.

The plants noticed in the following Supplement were gathered by Dr Sinclair, Surgeon of H. M. surveying Ship, Sulphur, and transmitted to us at the request of Captain Beechey. They were collected at *San Blas*, or between *San Blas* and *Tepic*, in about lat. N. 22°, in December, 1837; at *Acapulco*, N. lat. 17°, in January, 1838; or at *Realejo*, N. lat. 12° 45', in February, 1838. This latter place indeed belongs to Guatemala; but the Flora of that country, judging from what little we know of it, is so similar to that of Mexico, that we have no hesitation in including all under the general head of Mexican Plants.

ORD. I. RANUNCULACEÆ. *Juss.*

1. *Clematis Acapulcensis*; floribus paniculatis dioicis, foliis triternatim sectis, foliolis subcordato-ovatis acuminatis integerrimis 5-nerviis membranaceis glabris, acheniis lato-ovatis rostratis sericeis, cauda elongata valde barbato-plumosa.

HAB. Acapulco.

ORD. II. MENISPERMACEÆ. *Juss.*

1. *Cocculus oblongifolius* (DC.); foliis oblongis trinerviis utrinque obtusis mucronatis glabris, pedunculis folio brevioribus supremis subracemosis, masculis 4-10 floris, floribus subcorymbosis brevipedicellatis, femineis unifloris.—*De Cand. Prod.* 1. p. 99.

HAB. Acapulco.

ORD. III. PAPAVERACEÆ. *Juss.*

1. *Argemone Mexicana*, L.

HAB. San Blas to Tepic.

ORD. IV. CISTACEÆ. *DC.*

1. *Helianthemum* (*Heteromeris*) *polifolium*. *Torr. et Gray, Flor.* 1. p. 151.—*Heteromeris polifolia*. *Spach.*

HAB. San Blas to Tepic.

ORD. V. POLYGALEÆ. *Juss.*

1. *Polygala rivinaefolia*, *H.B.K. Nov. Gen.* V. p. 409. t. 512.

HAB. Acapulco.

This solitary specimen appears suffruticose; Kunth describes his as herbaceous; but the species appears the same.

ORD. VI. LINEÆ. DC.

1. *Linum Schiedeianum* (Schl. et Cham.) ; glabrum gracile adscendens suffruticosum, foliis quaternis verticillatis vel superioribus oppositis, obovato- vel lineari-lanceolatis basi attenuatis, floribus cymosis, bracteis sepalisque glanduloso-ciliatis, floribus flavis.—Ch. et Schl. in *Linnæa*, V. p. 234.

HAB. San Blas to Tepic.

ORD. VII. MALVACEÆ. Juss.

1. *Pavonia Mexicana*, H.B.K. ?

HAB. Acapulco.

Of our plant there is but one specimen, which has a decidedly shrubby stem, and the leaves are cordato-ovate, and acuminate, in which two points it differs widely from Kunth's description. It can scarcely be his *P. mollis*.

1. *Gossypium Barbadosense*, L. ?

HAB. San Blas to Tepic.

None of the described varieties of Cotton agree precisely with the one before us. The stem is almost glabrous, purplish, woody and dotted with black points ; leaves glabrous, dotted, cordato-ovate, entire or three-lobed, the lobes broadly ovate and acuminate ; middle nerve with a gland a little above the base, leaves of the involucre lacinate, glabrous. The fruit, seeds and wool, we have not seen.

1. *Anoda hastata*, Cav.—Schlecht. in *Linnæa*, XI. p. 214.—*Sida centrola*, Spr.

HAB. Tepic to San Blas ; and Acapulco.

2. *A. lanceolata* ; foliis oblongo-lanceolatis acuminatis crenatis nunc ad medium utrinque unidentatis subtus velutinis supra scabridis, pedunculis folium æquantibus calyceque scabro-velutinis, sepalis floriferis ovatis obtusis fructiferis in acumen obtusiusculum margine involutum attenuatis, corolla (flava ?) 9 lin. longa calycem triplo superante, fructu e carpidiis sub-10 brevissime mucronatis composito.

HAB. Tepic to San Blas.

1. *Sida rhomboidea*, Roxb.—L. obliqua, *Flor. Mex. ined.* ?

HAB. Tepic to San Blas.

This differs principally from *S. rhombifolia* by the carpels being awnless or at most two-toothed, and certainly not birostrate.

2. *S. carpinifolia*, L.—var. *carpellis bidentatis* haud birostratis.

HAB. Tepic to San Blas.

We may here remark that *S. carpinoides* DC., referred by some as a variety to *S. carpinifolia*, is *Malva tricuspidata*, Ait.

3. *S. dumosa*, Sw.

HAB. Realejo.

This agrees well with a specimen from Jamaica.

1. *Bastardia crispa*, St. Hil.—*Sida crispa*, L.—*Abutilon crispum*, G. Don.

HAB. Acapulco.

2. *B. viscosa*, Kunth.—*Sida viscosa*, L.

HAB. Acapulco.

ORD. VIII. BYTTNERIACEÆ. Kunth.

1. *Waltheria Americana*, L.

HAB. Acapulco.

1. *Riedleia nodiflora*, DC.—var. *angustifolia*.

HAB. Acapulco.

2. *R. serrata*, Vent.—var. *angustifolia*, Schlecht. in *Linnæa*, XI. p. 375

HAB. Acapulco.

ORD. IX. MALPIGHIACEÆ. Juss.

1. *Tetrapteris Acapulcensis*, H.B.K.

HAB. Acapulco.

1. *Triopteris sericea*, Schl. in *Linnæa*, X. p. 243.—Hook. et Arn. *supra*, p. 280.

HAB. Acapulco.

1. *Banisteria splendens*, DC. *Prod.* I. p. 588.

HAB. Realejo.

1. *Heteropteris tomentosa*, H. et A. *supra*, p. 281.

HAB. Acapulco.

ORD. X. SAPINDACEÆ. Juss.

1. *Cardiospermum microcarpum*, H.B.K.?

HAB. San Blas to Tepic.

We have only seen one capsule, and that is in an imperfect state and burst open; it appears glabrous.

1. *Urvillea Berteriana*, DC.

HAB. Realejo.

Our specimen agrees tolerably well with the imperfect description given by De Candolle; but his plant is from St Martha. We possess however a plant from St Vincent, which may be the same, but it is scarcely specifically distinct. The leaves are much longer than in *U. ulmacea*, and irregularly and coarsely toothed.

1. *Serjania racemosa*, Schum.

HAB. Realejo.

1. *Paullinia Curassavica*, L.

HAB. Realejo.

ORD. XI. MELIACEÆ. Juss.

1. *Swietenia Mahogoni*, L.

HAB. Realejo.

ORD. XII. OXALIDEÆ. DC.

1. *Oxalis Neei*, DC. *Prod.* 1. p. 689.

HAB. Acapulco.

ORD. XIII. TEREBINTHACEÆ. Juss.

1. *Rhus terebinthifolia*, Schlecht.—Hook. et Arn. *supra*, p. 284.

HAB. San Blas and Tepic.

2. *R. macrophylla*; foliis pinnatis subsexjugis cum impari, foliolis ellipticis sinuatis basi apiceque obtusissimis supra glabriusculis subtus puberulis, paniculis terminalibus folio duplo triplove brevioribus gracilibus, floribus glomeratis sessilibus, calycibus pubescentibus.

HAB. Acapulco.—Remarkable for the large size of the leaves, $1\frac{1}{2}$ to 2 feet long, with leaflets 4 to 6 inches in length; these latter are exactly elliptical, bluntly and broadly serrated at the margin, upon very short petiolules, marked with very straight nearly transverse nerves and these again connected by reticulated nervelets. To the eye they appear glabrous, but beneath under the microscope, are seen to be downy, especially on the nerves and on the younger leaflets. The branches of the panicle and the calyces are likewise downy.

ORD. XIV. LEGUMINOSÆ. Rich.

1. *Crotalaria ovalis*, Ph.—Hook. *Bot. Mag. t.* 3006. Hook. et Arn. *supra*, p. 284.—*C. sagittalis* γ. *ovalifolia*, Ph.—*C. sagittalis*, var. Schlecht. in *Linnaea*, v. 12. p. 278.

HAB. San Blas to Tepic.

2. *C. bupleurifolia*; leviter pubescenti-pilosa, caule angulato subulato dichotome ramoso, foliis brevissime petiolatis ovato-ellipticis utrinque obtusis (lineari-lanceolatisque acutis) mucronatis, floribus subgeminis pedunculatis prope basin ramorum, bracteis subjunctis oppositis stipuliformibus decurrentibus apice hastato-acuminatis. *Schlecht. in Linnæa*, 5. p. 575. *Hook. Ic. Pl. t. 382*.— β . foliis superioribus lineari-lanceolatis acutis.— γ . foliis omnibus lineari-lanceolatis acutis.

HAB. β . and γ . San Blas to Tepic.—Our plants so far accord with the description of Schlechtendal of his *C. bupleurifolia*, that we have little hesitation in considering them the same. What we take for the type of the species, as characterized by the learned author, has been lately figured in the *Icones Plantarum* above quoted, from a specimen from Xalapa. In a subsequent volume of the *Linnæa*, Schlechtendal observes (v. 12. p. 279.) “hæc nova species valde nobis est suspecta, serius enim accepta exemplaria, præsertim prope Chiconquaco lecta, foliis angustatis stipulisque minus prosilientibus, tantopere ab illa *sagittalis* accedunt ut difficile et artificialiter quasi, magnitudine, colore intensiore paginæ superioris, et glauco inferioris possint distinguui.” Our specimens certainly approach the forms now noticed, and even in our small collection we distinguish two varieties, as above mentioned.

3. *C. Tepicana*; annua parva dichotoma adpresso-pubescent, foliis sublonge petiolatis, trifoliolatis, foliolis obovato-cuneatis obtusissimis, stipulis minutis subulatis patentibus, pedunculo folio opposito et eo vix longiore 1-3-floro, carina vexillum superante, leguminibus oblique ellipticis puberulis.

HAB. Tepic.—*Radix* annua, parva. *Caulis* erectiusculus, spithamæus et ultra, gracilis, dichotome ramosus, ramis angulatis canescenti-pilosis, pilis brevibus appressis. *Folia* petiolata (petiolo gracili longitudine circiter foliorum) trifoliolata: foliolis brevissime petiolulatis, obovatis, cuneatis, obtusissimis non raro retusis cum mucronulo, pilis brevibus appressis pubescentibus. *Stipulae* valde minutæ, subulatæ, patentæ. *Pedunculi* folio oppositi, graciles, vix folia superantes, 1-3-flori. *Flores* parvi, lutei, pedicellati, pedicellis minute bracteatæ. *Calyx* appresso-pilosus. *Vexillum* calyce duplo longius, carina paulo brevius.

We cannot refer this small and inelegant *Crotalaria* to any described species. We possess indeed what appears to us to be the same from the island of St Vincent. It approaches the *C. dichotoma* of Graham in Bot. Mag. t. 2714, but that is a fruticose species with lanceolate acute leaflets, and much larger flowers: still the two plants belong to the same natural group of this extensive genus.

4. *C. longirostrata*, *Hook. et Arn. supra*, p. 285.

HAB. Acapulco.—Fruit elliptico-cylindrical, obtuse, with a rather deep furrow on the upper suture, very indistinctly puberulous.

5. *C. Acapulcensis*; fruticosa dichotoma, ramis teretibus junioribus angulatis pubescentibus, foliis petiolatis trifoliolatis, foliolis anguste lanceolatis intermedio subduplo longiore, stipulis minutis erectis subulatis deciduis, racemis multifloris oppositifoliis folio multo longioribus, vexillo carinam margine ciliatam superante, legumine cylindræo.

HAB. Acapulco.—Our specimens are a foot or more long, and appear to be only small branches of the plant. The leaves, except in a very young state, are destitute of pubescence: the middle leaflets $1\frac{1}{2}$ or 2 inches long, about twice the length of the lateral ones, all of them narrow, lanceolate, and very acute. The racemes are much longer than the leaves and elongate in fruit very remarkably, so that in that state they are

a span or more long. Fruit $1\frac{1}{2}$ to 2 inches long, cylindrical, hard, slightly downy, containing 20 or more shining brown compressed seeds. Flowers yellow, as large as those of *C. verrucosa*.

6. *C. incana*, L.—*De Cand. Prodr.* 2. p. 132. *Ker, Bot. Reg. t.* 377. *Cav. Ic.* 4. t. 322.

HAB. Acapulco.—Our plant agrees well with the figure in Bot. Reg., of which the specimen was collated with an authentic Linnean one. The leaves, however, differ considerably from those figured by Cavanilles, and probably the plant itself is very variable. The carina has the lower edge fringed with white down. We have what we consider the same species from St Vincent, but there the hairs on the underside of the leaves are tawny, giving a golden, instead of a hoary hue to that part of the plant. The *C. bracteata* of Roxb., a native of the East Indies, is very similar to this: but the leaflets are larger, quite glabrous on both sides, and the petioles are shorter.

1. *Indigofera lespedezoides*; fruticosa, foliis pinnatis, foliolis trijugis subcuneato-lanceolatis apice rotundatis et mucronatis basi acutis utrinque ramulisque strigulosus subtus glaucescentibus, racemis multifloris breviter pedunculatis folia superantibus, leguminibus reflexis compressiusculis rectis suboctospermis. *H.B.K. Nov. Gen. v.* 6. p. 455. *De Cand. Prodr.* 2. p. 226.

HAB. Realejo.—Branches long, slender, much curved. Legumes closely reflexed, an inch and more long, remarkably slender, coming to a very acute point. A second species of the genus is in this collection, but too imperfect for description, it approaches the one just noticed; but the pods, if they be in a perfect state, are not half the length of those of *I. lespedezoides*. It is from Acapulco.

1. *Cyanostemma cæruleum*, Benth. *msl.*—*Stenolobium cæruleum*, Benth. in *Ann. Mus. Vind.* 2. p. 125. *et in Tayl. Ann. Nat. Hist.* 2. p. 436.

HAB. Realejo.—A very handsome climbing and twining plant, with large ternate leaves: the middle leaflet rhomboidal, on a rather long petiole; the lateral ones on very short petiolules, half rhomboidal, soft and downy, the underside densely clothed with velvety tomentum, whitish, but with a slight golden tinge: all of them very obtuse. Peduncles axillary, bearing long racemes, about equal in length with the leaves. Flowers crowded and in clusters, so as to form an interrupted raceme, patent or reflexed. Calyx clothed with tawny hairs, subtended by small bractæ covered with white hairs. Mr Bentham observes that this is a widely diffused and apparently a common plant; "besides the numerous specimens gathered by Pohl, Martius, Salzmann, and others in various parts of Brazil, it is found in the isle of St Vincent's, and in central America. It is Cuming's n. 1097 from Panama."

1. *Galactia tuberosa*; caule volubili reflexo-piloso, foliolis elliptico-ovatis acutis mucronulatis supra glabris subtus strigillosis, floribus axillaribus geminis subsessilibus et foliis abortivis summis interrupte spicatis (radice tuberosa oblonga. DC.)—*De Cand. Prodr.* 2. p. 238.

HAB. Between San Blas and Tepic.—This has much the habit of *G. glabella*, Mich.;—but it differs in its hairiness, in its much larger very acute leaflets, considerably smaller flowers and different inflorescence. The flowers are scarcely half an inch in length. Immature legumes about an inch long, clothed with tawny velvety hairs. De Candolle's description of his *G. tuberosa* is very brief and unsatisfactory; yet, as far as it goes, it corresponds with our plant, and is also a native of Mexico.

1. *Tephrosia toxicaria*, Pers. Syn. 2. p. 328.—*De Cand. Prodr.* 2. p. 249. *Benth. in Ann. of Nat. Hist.* 2. p. 431. *Hook. et Arn. supra*, p. 287.—T. Schiedeana, Schlecht. in *Linnaea*, v. 12. p. 299. (ex. descr.)

HAB. Acapulco.—This is n. 1170 of Mr Cuming's Panama collections, and n. 173 of the Guiana Herbarium of Mr Schomburgk, who observes that in the dry Savannahs of the Rio Rupunnoony it is called "Yarro conalli," and is used for poisoning the fish called "Yarro," which will not eat the "Hiarry" (*Strychnos toxicaria*, Schomb.) *Benth.*—I have often received specimens from St Vincent, to which island I suspect it was introduced from Guiana by Mr Anderson. The leaves vary in the size of the leaflets, and in the form of their point, sometimes acute, sometimes obtuse or retuse, and sometimes deeply emarginate. We think from Schlechtendal's description there can be no hesitation in referring his *T. Schiedeana* to this place.

1. *Centrosema Virginiana*, *Benth.*—*Clitoria Virginiana*, L.—*De Cand. Prodr.* 2. p. 234.

HAB. Realejo.

2. *C. Plumieri*, *Benth.*—*Clitoria Plumieri*, Turp.—*DC. Prodr.* 2. p. 234. *Ker, Bot. Reg. t.* 268. *Macfadyen, Fl. of Jamaica*, p. 253.

HAB. Realejo and Acapulco.—A common plant in the tropical parts of South America, and in the West Indies, and a very handsome one in a recent state; but its beautiful white and rose-coloured flowers turn quite black in drying. Dr Macfadyen says they are called *fee-fee* in Jamaica, from the noise made by the negro children in blowing through the flowers.

1. *Canavalia multiflora*.—*Neurocarpum multiflorum*, *Hook. et Arn. supra*, p. 296.

HAB. San Blas to Tepic.—From our former Mexican collection we were only acquainted with the fruit of this plant; in the present we have flowering specimens. The blossoms are clothed with tawny silky hairs; upper lip very large, broadly obovate, lower lip very small and narrow. Corolla rose-colour.

1. *Dalea gracilis*, *Hook. et Arn. supra*, p. 287.

HAB. San Blas to Tepic.

2. *D. elata*; herbacea, glabra, caule erecto tereti ramosissimo glabro, ramis elongatis strictis, foliolis 4-6-jugis ellipticis subtus glaucis nigro-punctatisque, spicis (fructiferis) densis multifloris elongatis cylindraceis flexuosis, bracteis lanceolatis acuminatis longitudine calycis, calyce glabro nitido 10-striato interstitiis resinoso-glandulosis dentibus subulatis longe plumoso-sericeis, legumine apice truncato.

HAB. Acapulco.—Our specimens of this handsome *Dalea* are 2-3 feet long, and yet seem to be but small portions of the entire plant. The leaflets are small, obtuse, or only mucronate, destitute of dots above. The specimens are all in fruit: and in that state the spikes are 3-5 inches in length, and more than $\frac{1}{2}$ an inch broad; at first sight, apparently, everywhere clothed with long, silky hairs; but on close inspection it will be found that these hairs are partially situated. There are a few at the base of the calyx, but the exterior surface of the calyx is not only glabrous, but glossy as if varnished; the ovate tube has ten elevated ribs, and between the ribs are linear, elevated, resinous dots; the subulate teeth of the calyx (about equal in length with the tube) are clothed at the margin with long, dense, silky hairs, so that, the flowers being imbricated, the hairs seem to clothe the whole spike. The legume is shorter than the tube of the corolla, which it entirely

fills, one-seeded, subglobose, but with the top coming to a sharp truncated edge. The bractens are membranaceous and exhibit no glands. The plant seems to be entirely herbaceous; and, as far as can be perceived from the withered remains of its flowers, these are white or cream-coloured.

3. *D. elegans*? Hook. et Arn. Bot. of S. Am. in Bot. Misc. v. 3. p. 183.

HAB. Tepic.—The single specimen is in an imperfect state; but, so far as we can judge, it seems scarcely to differ from our *D. elegans* from the El Cerro del Morro in the province of San Luis, S. America. The flowers are, however, smaller, but of the same colour; and less injured specimens would, in all probability, present important distinguishing characters.

1. *Astragalus* (§ *Ciceroides*) *ervoides*; puberulus, caule gracili elongato ramoso, foliolis 15-17 remotis lineari-oblongis obtusis, stipulis lanceolatis parvis, pedunculis axillaribus folio longioribus racemosis, racemis 10-12-floris, calyce brevi-ovato oblique obtuse 5-dentato dentibus brevibus subæqualibus (pedicellis)que nigris, corolla (flava) calycem subduplo superante, leguminibus linearibus deflexis curvatis acutis glabris.

HAB. San Blas to Tepic.—Our portions of this plant measure less than a foot, slender, they are branched and straggling, herbaceous. Leaflets about half an inch long. Flowers of the same length, soon reflexed. The short cup-shaped calyx, with its obliquely 5-toothed mouth, has a few dark-coloured short hairs scattered over the surface, yet so as scarcely to affect the greenish colour; but the short teeth and the pedicels are quite black.

1. *Stylosanthes Guianensis*, Sw.—*De Cand. Prodr.* 2. p. 318. *Benth. in Ann. of Nat. Hist.* 2. p. 434.

HAB. Realejo.—A tall growing plant, with rather large, lanceolate leaflets, acuminate at both extremities. Flowers collected into large, dense capitula which are clothed with long spreading fulvous hairs. The same species is common in Brazil and Peru, as well as in Guiana.

1. *Desmodium heterophyllum*; erectum hirsutum, foliis simplicibus late ovatis obtusis supremis trifoliolatis, foliolis ovatis intermedio duplo triplove majore, stipulis bracteisque acuminatis rigidis striatis.

HAB. Realejo.—There is no fruit on the solitary specimen, nor any perfect flowers; but the foliage is unlike any with which we are acquainted. The leaves are in general simple, 2 or more inches long, on slender petioles about an inch long, with a pair of small stipules near the summit; the uppermost leaves are much smaller and trifoliate.

2. *D. incanum*, Sw. (sub Hedys.) Macfad. Jam. I. p. 265.—β. *supinum*.—*D. supinum*, Sw. DC.

HAB. α. Realejo.—This is a common plant in Jamaica, and I possess the same from Mr Cuming (his n. 1023); and Dr Macfadyen has clearly shown that *D. supinum* is only a variety of *D. incanum*, produced by weakness.

3. *D. plicatum*, Schlecht. in *Linnaea*, v. 5. p. 585. Hook. et Arn. supra, p. 287.

HAB. San Blas and Tepic.

4. *D. podocarpum*; elatum herbaceum, caule ramisque angulatis, foliolis (3) ovatis sub-

acuminatis, stipulis subulatis recurvis, paniculis in ramos terminalibus, pedicellis sæpe aggregatis elongatis gracillimis, floribus parvis, legumine 3-4 spermo spiraliter torto longissime gracillimeque stipitato, stylo longo rostrato. (TAB. XCVI.)

HAB. Acapulco.—A tall-growing plant (3-4 or more feet high), with rather large membranaceous leaves (the larger leaflets 2-3 inches long), glabrous in almost every part, except the petiolules and the lower margin of the leaflets which are ciliated. Panicle terminal, elongated, slender, with numerous, straight, diverging, capillary, very straight pedicels, an inch long. Corolla very deciduous, and the ovary soon becomes twisted and lengthened upon a much elongated and slender stalk, sometimes almost equal in length to the pedicel of the calyx, giving the fruit a very remarkable appearance. The style also is long. Seed twisted!

Desmodium podocarpum. Fig. 1. Flower; fig. 2. Pistil, and figs. 3, 3. more advanced fruits; fig. 4. Seed:—magnified.

5. *D. triflorum*, DC.—Hook. et Arn. supra, p. 287.

HAB. Acapulco.

1. *Æschynomene hirsuta*, DC.—Schlecht. in *Linnaea*, v. 5. p. 583. Hook. et Arn. supra, p. 287.

HAB. Acapulco.

1. *Cajanus flavus*? DC.—Cytisus Cajan, L.

HAB. Realejo.—In the dried state, at least, we cannot distinguish the difference between *C. flavus* and *C. bicolor*.

1. *Rhynchosia grandiflora*, Schlecht. in *Linnaea*, 5. p. 588. Hook. et Arn. supra, p. 287. TAB. LIX.

HAB. San Blas to Tepic.

1. *Lupinus Mexicanus*, Lag.—Bot. Reg. t. 457.

HAB. San Blas.—Bractees setaceous, much longer than the flowers, by which it is readily distinguished from *L. polyphyllus*.

1. *Phaseolus saccharatus*.—M'Fad. Fl. Jam. v. 1. p. 282.

HAB. Acapulco.—Probably a cultivated plant. We cannot find that it accords with any of the species described by De Candolle; but precisely agrees with the specimens we have received from Dr M'Fadyen as the Sugar-Bean of the West Indies, and described by him in the work just quoted under the name of *P. saccharatus*. The stem is twining, more or less hairy, the hairs deflexed. Leaflets nearly glabrous or hairy on the nerves, especially beneath, the intermediate one deltoideo-ovate, acuminate, on a rather long petiolule; the lateral ones half-deltoid. Peduncles a good deal longer than the leaves, bearing several flowers, 2 or 3 together, pedicelled or sessile. Flowers small, greenish-white: the carina spirally twisted. Pod about 2 inches long, acinaciform, tipped with the rather long, straight, rigid, persistent style. There are 2 small, ovate, striated bracteolæ at the base of the calyx. An imperfect specimen of the same plant was in Captain Beechey's collection from Talisco.

1. *Mimosa floribunda*, Willd.—De Cand.—Schlecht. in *Linnaea*, 5. p. 692.

HAB. Tepic.—The same plant exists in Andrieux's collection of the Mexican Plants, from San Felipe. (n. 402.)

2. *M. sensitiva*, Linn.—*De Cand. Prod.* 2. p. 416.

HAB. Acapulco.

1. *Inga anomala*, Kunth, *Min. p.* 70. t. 22. *De Cand. Prod.* 2. p. 442.—*Acacia grandiflora*, Willd.

HAB. Tepic.—We have the same species from the neighbourhood of Mexico, gathered by our late consul there, Mr Mackenzie. It is a splendid plant, and De Candolle suggests that, together with *Inga Houstoni* which has the same copious long bright red stamens, it might form a distinct Genus.

2. *I. ? patens*; caule petiolisque aculeis brevibus uncinatis sparsis, foliis bipinnatis, pinnis sex trijugis, foliolis ovatis ovalibusve oppositis brevissime petiolatis glabris terminalibus plerumque majoribus, spicis elongatis densifloris pedunculatis axillaribus terminalibusque subpaniculatis, staminibus sub 20 corollam 4-petalam vix duplo superantibus.

HAB. Realejo.—This seems to be a tall growing plant, with woody branches, glabrous everywhere except the young shoots. Leaves copious, patent, and, as well as the branches (especially the younger ones), furnished with numerous, scattered, small, curved prickles. The main rachis bears 3 pairs of distantly placed pinnae, each pinna bare of leaflets below, having on its upper half, 3 pair of rather closely set leaflets, the largest of them less than an inch long; these vary somewhat in shape, being ovate, oval, or obovate, upon very short petiolules, of a texture between membranaceous and coriaceous, paler-coloured beneath. In the axils of the upper leaves and upon the extremity of the branches where the leaves gradually disappear (thus forming a sort of panicle) the spikes are situated, 3-4 inches long, shortly pedunculated, and growing singly or 2 or 3 together. The flowers and stamens seem to be yellow.

3. *I. ? Guatemalensis*; piloso-sericea, caule petiolisque aculeis validis rectis fulvis, foliis bipinnatis, pinnis 6-8 tri-sexjugis, foliolis oblongo-ellipticis subsessilibus mucronatis, rachi spinula terminata, spicis densifloris terminalibus subpaniculatis, staminibus sub-20 flori-bus 4-plo longioribus.

HAB. Realejo.—Apparently a low shrub, with woody branches which are angular, especially the younger ones, and these clothed with short silky, rather tawny hairs and beset as well as the petioles and rachis which bears the spikes, with stout, straight, fulvous, scattered prickles, the largest of them almost a quarter of an inch long. Leaves numerous. Pinnae and pinnule rather distantly set, the latter one-half to three-fourths of an inch long, more or less silky especially beneath, as are the younger ones. Spikes 2-4 inches long, with longer stamens than the preceding species. Calyx and corolla (of 5 small erect petals) silky. We have seen no fruit of this or the foregoing species.

1. *Poinciana pulcherrima*, L.—*DC.*

HAB. Realejo.

2. *P. insignis*, Kunth, *Min. t.* 44.—*De Cand. Prod.* 2. p. 484.

HAB. Acapulco.—These specimens entirely agree with the figure above quoted of Professor Kunth. The

general aspect of the plant is different from that of the preceding species; the colour of the flowers is deeper and redder, the claws of the petals are shorter and the stamens also.

1. *Hematoxylon Campechanum* ? L.—*De Cand. Prodr.* 2. p. 485.

HAB. Realejo.—A barren specimen of this, "the Nicaragua wood," is in the Herbarium. It has quite the structure of foliage of *Hematoxylon*, and in the Dictionnaire des Sciences Naturelles, the "Bois de Nicaragua" is referred to the *Hematoxylon Campechanum*. But our specimen has many points of difference from the true *H. Campechanum*. The branches are much stouter, the ultimate ones indeed cylindrical; but, lower down, where the thickness is equal to that of the little finger, the branches become compressed and as it were deformed and more or less bluntly angular. The outer bark is much darker coloured, covered with little raised points, so as to render the surface everywhere quite rough not only to the touch but to the eye. The leaves are larger, always even in the young branches growing in clusters. With these differences before us, we dare not venture to consider the tree as identical with the "Logwood," nor do we know whether in commerce the two woods be considered the same.

1. *Cassia* (§ *Chamaefistula*) *bucillaris*, L. fil.—*De Cand. Prodr.* 2. p. 490. *Vogel, Cass. p. 14. n. 15.*—*Cathartocarpus Bacillus*, Pers.—*Bot. Reg. t. 881.*

HAB. Acapulco.

2. *C.* (§ *Chamaefistula*) *bicapsularis*, L.—*Vogel, Cass. p. 18. n. 28.* *De Cand. Prodr.* 2. p. 494.

HAB. Tepic.

3. *C.* (§ *Chamaesenna*) *biflora*, L.—*Vogel, Cass. p. 29. n. 67.* *Sims, Bot. Mag. t. 810. Bot. Reg. t. 1310.*—*C. Acapulcensis*, H. B. K. *Nov. Gen. Am. 6. p. 353?*

HAB. Realejo and Acapulco.

4. *C.* (§ ?) *punctulata*; pubescenti-glandulosa, ramis herbaceis elongatis, foliis remotis foliolis bijugis ovato-lanceolatis breviter petiolulatis mucronatis subtus fusco-punctatis, glandula petiolari nulla, stipulis subulatis reflexis, corymbis paucifloris, calycibus hispidis.

HAB. Tepic.—There is only one specimen of this plant, with imperfect flowers; but its foliage is very peculiar. The petiole is about 2 inches long, bearing at the upper extremity two pairs of ovato-lanceolate acute and mucronated leaflets, each about three quarters of an inch long, marked with brown (resinous?) dots on the underside: these leaves are very remote. The whole plant is clothed with a glandular pubescence. The flowers are moderately large, deep orange colour.

1. *Bauhinia inermis*, Pers.—*De Cand. Prodr.* 2. p. 514.—*Pauletia inermis*, Cav. *lc. t. 419.*

HAB. Acapulco.

2. *B. Lunaria*, Cav. *lc. 5. t. 407.* *De Cand. Prodr.* 2. p. 512. *Hook. et Arn. supra, p. 288.*

HAB. Acapulco.

3. *B. latifolia*, Cav. *Ic. t. 405. De Cand. Prodr. 2. p. 513.*— β . foliorum lobis obtusioribus.

HAB. β . San Blas and Tepic.

ORD. XV. COMBRETACEÆ. Br.

1. *Combretum farinosum*; scandens, foliis oppositis obovato-oblongis obtusis utrinque præsertim subtus farinoso-lepidotis, spicis terminalibus (lateralibusque) geminis, floribus subsecundis octandris aurantiacis, fructibus oblongo-pyriformibus tetrapteris. *H.B.K. Nov. Gen. 6. p. 110. De Cand. Prodr. 3. p. 19. Schlecht. in Linnæa, 5. p. 558. Hook. et Arn. supra, p. 290.*

HAB. Realejo. This seems to have a wide range along the coast of the Pacific, from Acapulco to Realejo.—We think we are right in referring this plant to *C. farinosum*, but there are some points of difference which we observe in our specimens, which are in much finer condition in the present Mexican collection than in the previous one. It is a very splendid species; the stems and branches long and very woody. Petiolo three quarters of an inch long. Leaves opposite, broadly elliptical rather than obovate, moderately acute at each extremity, between membranaceous and coriaceous, quite entire, indistinctly squamuloso-farinosæ above, decidedly so beneath, though not very evident to the naked eye: seen under the magnifier the little scales or farina appear white and round. Racemes as frequently lateral as terminal, 4-6 inches and more long, the rachis firm and woody. Peduncle short. Flowers very numerous, crowded, deflexed and pointing to one side. Pedicel (or rather pedicelliform ovary) the third of an inch long, tetragonal, mealy; free portion of the calyx cup-shaped, tapering at the base, mealy, 4-lobed, lobes acute. Petals 4, alternating with the lobes of the calyx, and situated at the hairy mouth of the calyx, very minute, squamiform. Stamens 8, much protruded, four times as long as the calyx. Filaments deep crimson, arising from the mouth of the calyx. Anthers orange-colour, oval-oblong. Capsules about three quarters of an inch long, roundish-rhomboidal, with 4 broad, membranaceous wings: the surface is almost destitute of the mealiness which clothed the ovary.

Schiede says the *Combretum farinosum* is called "*Peyna*," signifying a *comb*, by the Spaniards of Actopan, probably because of the closely placed one-sided flowers of the raceme.

ORD. XVI. ONAGRARIÆ. Juss.

1. *Jussiaea peploides*; fruticulosa glabra, foliis spathulato-oblongis obtusis crassiusculis, floribus decandris, pedunculo nudo, laciniis calycinis lanceolatis acuminatis, capsulis linearibus. *H.B.K. Nov. Gen. Am. 6. p. 97. De Cand. Prodr. 3. p. 53. Hook. et Arn. supra, p. 291.*

HAB. Between San Blas and Tepic.—Although we believe this to be the *J. peploides*, *H.B.K.*, we are yet of opinion that it is also the *J. Swartziana*, DC. and the *J. repens*, Linn.; which latter, though considered by De Caudolie to be exclusively a native of the East Indies and adjacent islands, yet we possess specimens from Chile which can in no way be distinguished from it.

2. *J. hirta* (*Vahl.*); frutescens erecta hirsuta, foliis brevissime petiolatis lanceolatis

attenuatis subtus hirtis, pedicellis ovario brevioribus ebracteolatis, calycibus lobis 4 ovatis acutis basi 5-7-nerviis, tubo obconico subcylindraceo-ovato 4-nervio, petalis obovatis calyce longioribus. *De Cand. Prodr.* 3. p. 57. *Hook. et Arn. supra*, p. 291.

HAB. San Blas to Tepic.—We possess the same plant from various parts of S. America, but are by no means certain of our correctness in referring it to the *J. hirta* of Vahl. The leaves vary much in different specimens, from ovato-lanceolate to oblong-lanceolate, the hairiness is chiefly confined to the upper part of the plant. The pods are about an inch and a half long, when ripe, destitute of the calyx-segments.

1. *Semeiandra grandiflora*, *Hook. et Arn. supra*, p. 291. TAB. LIX.—*β. subhirsuta*.

HAB. *β.* Between San Blas and Tepic.—Dr Sinclair's specimens differ in no respect from those gathered during Captain Beechey's former voyage, except in being more pubescent, especially in the younger parts of the plant, and upon the flowers, and in there being rather longish spreading hairs mixed with the down upon the calyx and pedicels.

1. *Diplandra lopezoides*, *Hook. et Arn. supra*, p. 292. TAB. LX.

HAB. Between San Blas and Tepic.

1. *Lopezia hirsuta*; caule elato suffrutescente reflexo-piloso, ramis elongatis strictis gracilibus, foliis oppositis ovatis seu ovato-lanceolatis petiolatis obscure serratis hirsutis, racemis terminalibus superne paniculatis. *Jacq. Coll. Bot.* p. 5. t. 15. f. 4. *De Cand. Prodr.* 3. p. 62. *Hook. et Arn. supra*, p. 291.

HAB. Between San Blas and Tepic.—A very graceful plant. The leaves gradually pass upwards among the branches into small bracteas. The hairs with which almost every part of the plant is clothed, except the pedicels and flowers, are rather long and seated upon a small bulb; those of the stem and petioles and midrib beneath are more harsh and rigid than the rest, reflexed and very close pressed. Pedicels extremely slender, subtended by a minute bractea.—The figure of Jacquin above quoted is an excellent representation of a flowering branch.

ORD. XVII. LYTHRARIÆ. *Juss.*

1. *Heimea salicifolia*, *Link. et Otto, Abbil. Ber.* 63. t. 28. *De Cand. Prodr.* 3. p. 89. *Hook. et Arn. supra*, p. 288.—*Nesaea salicifolia*, *H.B.K. Nov. Gen. Am.* 6. p. 192.

HAB. San Blas and Tepic.

1. *Cuphea Llavea*, *La Llave et Lexarc. Veg. Mex.* 1. p. 20. *De Cand. Prodr.* 3. p. 8. *Bent. Pl. Hartweg.* p. 7. n. 25. (*et Herb. Hartw. n.* 25).—*C. barbigera*, *Hook. et Arn. supra*, p. 289.—*β.* foliis plurimis superioribus minoribus densis bracteiformibus.

HAB. San Blas and Tepic.—We had considered this to be a new species: but Mr Benthams has referred specimens of the same plant in Hartweg's Mexican collections (n. 25) to the *C. Llavea*, of La Llave and De Candolle, which latter author has thus characterized it: "caulibus pluribus hispidulis, ramis ascendentibus, foliis subsessilibus ovato-lanceolatis strigosis, pedicellis interfoliaceis erectis, petalis 2 obovatis magnis, cæteris abortivis, stam. 11."—Our character will be seen (*supra*, p. 289).—Our specimens in the present collection are a foot and a half to two feet long, extremely rough with the copious rigid hairs or bristles, with which every

part of the plant is clothed. The specimens gathered by Dr Sinclair are rather more glaucous than our former ones, and the large calyx does not in general exhibit so deep a tinge of purple, though that circumstance is very variable.—Our var. β . has some of the leaves of the stem three inches long, but the upper ones are much reduced in size, and so imbricated as to give the appearance of a dense bracteated spike to the flowers.

2. *C. floribunda*, Hook. et Arn. supra, p. 289.

HAB. San Blas to Tepic.—Copious specimens of this fine species are in the present collection, exhibiting all the peculiarities we have mentioned in our specific character. It is a tall growing species. Leaves 2-3 inches long, exceedingly rough to the touch. The flowering branches often run out to a great length, (10 inches or a foot) and bear small, distant, but opposite, narrow-lanceolate, bracteiform leaves.

3. *C. bracteata*, Hook. et Arn. supra, p. 289.—an *C. bractenta*? Lay. et De Cand. 2. p. 88.

HAB. San Blas and Tepic.—The *C. bracteata* of Lagusca is a Mexican species, of which the brief description given by De Candolle tolerably accords with our plant. The stems and branches are woody and the bark readily peels off in large flakes. The leaves are little more than half an inch long.

ORD. XVIII. MELASTOMACEÆ. Juss.

1. *Heterocentron Mexicanum*, Hook. et Arn. supra, p. 290.

HAB. San Blas to Tepic.—Better specimens than we formerly possessed of this plant, enable us to give, in the following words, its more obvious characters:—fruticosa, ramis tetragonis glabriusculis, foliis ovatis oblique penninerviis brevi-petiolatis integerrimis pubescenti-setosis, floribus in ramis pluribus brevibus corymbosis paniculam formantibus, calyce 4-fido tubo ovato lævi setis copiosis apice glandulosis tecto lobis lanceolato-acuminatis glabris, staminibus 8, 4 majoribus basi longissime bicornis, 4 basi paululum constrictis appendiculis nullis, capsula glaberrima basi calyci adherente.—This plant has a woody stem, in our present specimens a foot and more long, with opposite square branches. Leaves, the largest of them, scarcely an inch long, on very short petioles, ovate, acute, or rather obtuse, entire, obliquely and constantly penninerved, the nerves all springing from the midrib and directed upwards, above and at the margin sparingly setose with short hairs, beneath paler coloured and the hairs chiefly confined to the costa and nerves. The upper branches are short, and bear leafy corymbs of few, rather small-sized flowers; the collected flowering branches thus forming a leafy corymbous panicle. Calyx 4-cleft, the tube ovate, slightly contracted at the mouth, even (not ribbed), clothed with spreading setæ, which are terminated with a viscid gland; lobes of the calyx lanceolate, acuminate, spreading, destitute of setæ. Petals 4, obovato-rotund, ciliated. Stamens 8, 4 larger of which the anthers are linear-oblong, furnished at the base with 2 long horns or fleshy setæ; the 4 smaller ones are destitute of those horns, and are only slightly constricted at the base so as there to form a sort of tubercle. Ovary broadly ovate, quite glabrous, the lower half incorporated with the base of the tube of the calyx, the rest free; style filiform or slightly clavate. The whole plant has a blackish hue when dry.

1. *Chætogastra ferruginea*; tota setis nitidis ferrugineis appressis tecta, ramis obtuse tetragonis, foliis oblongo-lanceolatis petiolatis integerrimis 3-5-nerviis, panicula terminali foliosa subcorymbosa, calyce 5-fido, tubo ovato 5-costato, lobis subulato-lanceolatis deciduis, staminibus 10, 4 majoribus omnibus antheris uniporosis basi tuberculo horizontali subelongo, ovario setoso basi calyci adherente.

HAB. Realejo.—Stems stout and woody, almost terete, the branches obtusely 4-sided, clothed, as are the leaves, calyx and ovary, with erect, close-pressed, pale, rusty coloured shining setæ, giving a silky appearance to the eye. Leaves 2 inches or 2½ inches long, on rather short petioles, oblong-lanceolate, entire, acute, marked with from 3-5 strong, parallel nerves. Flowers corymbose on small terminal branches, which collectively form a corymbose panicle. Flowers crowded, and rather small. Calyx 5-cleft; the tube ovate, marked with ten slightly elevated lines, and, as well as the lanceolato-subulate erect lobes, clothed with appressed, rigid hairs; the lobes are eventually deciduous. Petals 5, oblongo-obovate, ciliated. Stamens 10, 4 large and 4 small; but the anthers all uniform, linear, opening by a single conspicuous pore at the extremity, and furnished at the base with a projecting horizontal tubercle. Ovary ovate, the lower half adherent with the base of the calyx, the upper half free, and covered with erect, close-pressed bristles; style clavate, glabrous. The fruit is a capsule included within the truncated calyx.

ORD. XIX. CUCURBITACEÆ. Juss.

1. *Bryonia attenuata*; monoica, caule profunde striato* glabro, foliis late ovatis oblongisve integris vel profunde trilobis basi cuneatis utrinque scabris subtus pubescentibus sinibus obtusis lobis cuneato-oblongis obtuse serratis serraturis mucronatis, floribus racemosis, pedicellis inferioribus subfasciculatis.—*Anguria*? dubia, *Hook. et Arn. supra, p. 292.*

HAB. Acapulco.—From the former Mexican collection we attempted to draw up a character of this plant with the aid of only very imperfect specimens. Those from Dr Sinclair have both flower and fruit. The male flowers are green and about as large as those of our *Bryonia dioica*. Filaments 3. Anthers combined and flexuose. The berries are rather larger than those of the common Bryony, filled with white mealy pulp, and flat seeds.

1. *Momordica*? *quinquesida*, *Hook. et Arn. supra, p. 292.*

HAB. Acapulco.—The fruit here is more perfect than in our former specimens, and is ovoid.

RYTIDOSTYLIS.† *Nov. Gen.*

GEN. CHAR. Monoicus. *Calyx* longe tubulosus, coloratus (albus), constrictus, limbo 5-dentato, dentibus minutis demum recurvis. *Petala* 5, lanceolata, summo tubi calycis inserta et quasi cum eo coadunita.—**MASC.** *Petala* basi nuda. *Columna staminea* longitudine fere calycis tubi, rugosa, superne lævis. *Antheræ* (3?) lineari-elongatæ, tortuosæ, in massam brevi-cylindraceam coalitæ. *Ovarium* nullum.—**FÆM.** *Petala* basi tuberculis incrassata. *Ovarium* calycis basi adhærens, oblique ovale, hispido-echinatum; *Stylus* elongato-cylindraceus, longitudine calycis tubi, capitatus, rugosus, superne lævis. *Stigma* capitatum, læve. *Fructus*?—Herba *Guatemalensis*. *Caulis* gracilis, cirrhosus. *Folia* alterna, tenui-membranacea, cordata, angulato-dentata, brevi-petiolata, utrinque sub lente scabra. Flores masculi corymbosi; corymbi pauciflori sublonge pedunculati. Flores fæminei solitarii, brevi-pedunculati, ad basin pedunculi masculini inserti.

* This word is by mistake printed *stricto* in the specific character of the same plant, *supra*, p. 292.

† From *cutis*, *ides*, *wrinkle*, and *stevia*, a *style* or *column*, in allusion to the wrinkled surface both of the style in the female flower, and of the column of stamens in the male flower.

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1. *Rytidostylis gracilis*. (TAB. XCVII. A.)

HAB. Realejo.—We do not find any genus of *Cucurbitaceæ* to correspond with the present plant, of which, however, we unfortunately possess no fruit. The stems are very slender, almost filiform, glabrous. Leaves thin and membranaceous, an inch and a half long and about as broad, roundish-cordate, with a deep sinus, the margins angulato-dentate, mucronulate, both surfaces scabrous with minute elevated points. Petiole short, not in general much longer than the sinus. Cirrhi lateral. Flowers axillary: male several (4-6) in a pedunculated corymb; female solitary, upon a very short peduncle from the base of the peduncle of the male corymb. Male flowers smaller and slenderer than the female, but the structure of the floral coverings is the same in both; in the male flowers, however, the petals have not the thickened tubercular base we find in the females. The column formed by the filaments of the stamens is nearly as long as the tube of the calyx; there is no ovary nor the rudiment of one. The female flower has no trace of stamens; but the style has the same remarkably wrinkled appearance which we find on the staminal column of the male flowers. Stigma large, smooth, with a depression at the top.

TAB. XCVII. A. *RYTIDOSTYLIS GRACILIS*.—Fig. 1. Unexpanded male flower; fig. 2. Male flower laid open to show the stamens; fig. 3. Female flower; fig. 4. The same, from which the floral coverings are removed:—*magnified*.

ORD. XX. PAPAYACEÆ. *Agardh*.

1. *Carica Papaya*; foliis palmatis 7-partitis, laciniis oblongis profunde sinuatis acutis, fructibus oblongis sulcatis. *Linn.—Hook. Bot. Mag. t. 2898-2899*.

HAB. Realejo.—The foliage and flowers exactly correspond with the well known Papaw Tree, and with the specimen figured in the Botanical Magazine. The following is a totally different species.

2. *C. peltata*; foliis peltatis orbiculari-cordatis profunde 5-fidis, lobis latissime obovatis acutis dentatis subtus glaucis, floribus (masculis) glomeratis in paniculam dispositis, filamentis monadelphis alternis brevioribus. (TAB. XCVIII.)

HAB. Realejo.—This is a most distinct species of Papaw from any yet described. The leaves are from 6-10 inches long (and about the same in breadth), deeply 5-lobed, peltate; the petiole, a foot or more long, and as thick as a swan's quill, is inserted beneath at a great distance from the margin; the general outline or circumscription is roundish-cordate; the lobes are very broadly obovate coming suddenly to an acute point, toothed at the margins; the sinuses more or less acute or obtuse; the under side is glaucous. The panicles are of male flowers only, nearly a foot long; the branches distant, but very irregularly placed, and having the flowers clustered or conglomerated. Calyx exceedingly minute, 5-toothed. Corolla an inch or an inch and a half long, hypocrateriform; the tube slender; the limb 5-parted, spreading. Stamens 10, inserted at the mouth of the corolla, evidently monadelphous, the base of the filaments being united into a short annulus: these filaments are alternately longer, all of them fringed with spreading hairs, the shorter ones (so short as at first sight to give the appearance of sessile anthers) have the largest anthers:—all of them, however, are of the same shape, oblong, and opening interiorly by two longitudinal fissures near the middle of the two cells; they are fixed to the top of the filament by the middle of the back. The female flowers and fruit are unknown to us.

TAB. XCVIII. *CARICA PELTATA*.—Fig. 1. Flower; fig. 2. Portion of the stamens:—*magnified*.

ORD. XXI. LOASEÆ. Juss.

1? *Gronovia scandens*, L.—Jacq. *Ic. Plant. Rar. t. 338. H.B.K. Nov. Gen. Am. 2. p. 119. (TAB. XCVII. B.)*

HAB. Between San Blas and Tepic.—St Hilaire has ondeavoured to show an affinity between this plant and the *Onagrarie*. But it is surely more nearly allied to *Cucurbitaceæ* and *Loaseæ*. Professor Lindley places it in this latter Order without any mark of doubt, though it differs from it in the definite stamens and solitary pendent seed. There is an excellent figure of the entire plant in Jacquin's "Icones Plantarum Rariores" above quoted.—The flowers and fruit are nowhere accurately figured. The calyx is coloured, large, funnel-shaped, pubescenti-scabrous, divided half-way down into five broadly lanceolate erecto-patent acute segments; at the base (which is incorporated with the ovary) are five, projecting, obtuse, decurrent teeth, alternating with the segments of the calyx; these teeth may perhaps be considered coadunate bracteas. At first sight they may readily be mistaken for the calyx, and the real calyx for a corolla, and it is no doubt the presence of these which gave rise to the remark in De Candolle's *Prodromus*, quoted from *Fl. Mexic. ms.*; "Fructus junior costatus." On laying open the proper calyx, five linear-spathulate petals are seen, alternating with the lobes of the calyx, and shorter than those lobes, situated at the mouth of the tube. Stamens 5, alternating with the petals, and inserted on the same line with them. Filaments as long as the petals, hairy. Anthers oblong, 2-celled, opening anteriorly by two fissures. Ovary adherent to the base of the calyx, 1-celled, 1-ovuled. Style filiform, rather longer than the stamens, glabrous: Stigma capitate, small. Fruit a small indehiscent(?) capsule, crowned by the withered remains of the flower, 1-celled, with one pendent seed occupying the entire cavity of the cell, globose. Albumen none. Embryo globose, of two hemispherical cotyledons. Radicle superior, tuberculiform.

TAB. XCVII. B. GRONOVIA SCANDENS.—Fig. 1. Flower; fig. 2. The same laid open to show the petals, stamens, and style; fig. 3. Fruit, with the withered, but persistent floral coverings; fig. 4. Fruit laid open, showing the solitary pendulous seed; fig. 5. Embryo:—magnified.

ORD. XXII. TURNERACEÆ. H. B. K.

1. *Turnera cuneiformis*, Juss.—*De Cand. Prod. 2. p. 346.*—*T. obtusifolia*, Sm. in *Rees' Cycl.*

HAB. Realejo.—*T. cuneiformis* is described only as an inhabitant of Brazil. Our specimens precisely accord with an unnamed Brazilian species in our Herbarium, gathered at Bahia by Saltzmann; and also with cultivated specimens from the garden of Göttingen under the name of *T. cuneiformis*.

ORD. XXIII. LORANTHÆÆ. Rich.

1. *Loranthus Schiedeanus*; glaber hexandrus grandiflorus, antheris versatilibus, corymbo terminali e cymis semel terque trichotomis, ramis subalato-tetragonis ad nodos dilatatis, foliis (pseudo-oppositis) breviter petiolatis ovato-lanceolatis lanceolatisve oblique falcatis apice (magis minusve) attenuatis penninerviis subtriplinerviisque, floribus pedicellatis, bractea cupuliformi truncata germine brevior, calycis margine integerrimo

truncato germen æquante. *Slecht. in Linnæa*, 5. p. 172. *Hook. Ic. Plant. t.* 374.
β. foliis minus acuminatis, floribus brevioribus.

HAB. *β.* Between San Blas and Tepic.—We possess specimens of what we consider the type of this species from Xalapa (the original station of Schiede) gathered by M. Galeotti. The present has less acuminate frequently 5-(as well as 3-) nerved leaves, and shorter flowers. In other respects the two plants appear to be the same. The same species is in Andrieux Pl. Mexic. *Exsicc. n.* 342, from between Chalco and Gonmacatapec.

ORD. XXIV. RUBIACEÆ. *Juss.*

1. *Bouvardia linearis*, *H.B.K. Nov. Gen. Am.* 3. p. 383. *Hartweg, Plant. Mex. n.* 106.
Benth. Pl. Hartweg. n. 106.

HAB. Between San Blas and Tepic.—This is probably a very general plant throughout Mexico, and we suspect a very sportive one. Kunth remarks that his *B. angustifolia* and *B. hirtella* are probably not different from it; and we are almost of opinion that through the medium of *B. splendens*, Graham in Bot. Mag. t. 3781, it may be traced even into *B. Jacquinii*, H.B.K. (the *Izora Americana*, Jacq., *Houstonia coccinea*, Andr.)

2. *B. scabra*; fruticosa, ramis teretibus pubescenti-pilosis, foliis ternis brevissime petiolatis lato-ovatis acuminatis pubescenti-scabris penninerviis, stipulis e lata basi subulato-setaceis, corymbis terminalibus trichotomis, dentibus calycinis longe subulatis scabris, corolla glaberrima.—*B. obovata*, *Benth. Plant. Hartw. n.* 99. an *H. B. K. ? Hartw. Plant. Mex. n.* 99.

HAB. Between San Blas and Tepic.—This is the same plant with n. 99. of Mr Hartweg's Mexican collections, and has been considered by Mr Bentham to be the *B. obovata* of H.B.K.—but that plant is described as having a glabrous, 4-sided, square stem, and "folia quaterna obovato-oblonga, acuminato-mucronata, basi angustata, reticulato-venosa, utrinque glabriuscula;" characters which do not tally with our plant. Our *B. scabra*, is remarkable for the harsh rigid pubescence which more or less abundantly clothes every part of the plant, and which is particularly copious on the young branches and foliage and on the calyces. Leaves 2-3 inches long. The stipules are formed by a broad membrane, uniting the bases of the petioles and bearing a strong subulate or rather setaceous tooth, and one or two lesser and filamentous ones, which are soon deciduous. Corymb many-flowered, terminal, trichotomously divided, at the setting on of the branches bearing 3 small linear-lanceolate leaves and similar stipules to those of the stem, but having less rigid teeth or setæ. The calycine teeth are particularly long, subulate and flexuous; the corolla an inch and a half long, scarlet (?), the tube slender, widening upwards, the limb of 4 broadly ovate spreading segments.*

* In Mr Andrieux's Mexican collections are three plants which seem to be referrible to this genus *Bouvardia*, and which may be thus characterized.

1. *Bouvardia Toluca*; suffruticosa, ramis erectis trichotomis folisque ternis lineari-lanceolatis sessilibus pubescenti-scabris, stipulis latis membranaceis subbisetigeris, corymbis terminalibus trichotomis, dentibus calycinis brevibus subulatis, corollæ pubescentis limbi laciniis late ovatis brevibus suberectis.

HAB. Toluca. *Andrieux, Pl. Mexic. exsicc. n.* 332. Nom. vernac. *Trompetillo*.—The lower part of the stem is shrubby, the rest herbaceous. The leaves are scarcely an inch long, quite sessile. Flowers an inch in length. Corolla clothed with a rather harsh white down, the limb very short.

1. *Hamelia patens*, Jacq.—Hook. et Arn. supra, p. 295, (var. *glabra*.)— β foliis subtus molliter pubescentibus.

HAB. β . Realejo.—Our former specimens were quite glabrous, the present are downy and even velvety on the underside of the leaves.

1. *Spermacoce tenuior*, Linn.—De Cand. Prod. 4, p. 552. Hook. et Arn. supra, p. 295. (TAB. NOSTR. XCIX. B.)

HAB. San Blas and Tepic.—In this widely dispersed species of *Spermacoce* we think we have observed characters which will almost invalidate those of the Genus *Bigelovia* (*Borreria*, Meyer, not Acharius.)—The essential distinguishing mark of the Genus *Bigelovia*, is to have the "Capsula matura ab apice septicide dehiscens dissepimento libero nullo." (De Cand.) Such is really the case, generally speaking, with the fruit of the plant now before us, as shown by A. Richard, *Rub. t.* 14. fig. 2, 3, and in our Tab. XCIX. B. fig. 3 and 4. Hence, as it appears to us, our plant would be a *Bigelovia*. Schlechtendal's character of *Bigelovia* in the *Linnaea* (3, p. 310.) is also quite characteristic of this kind of fruit:—"Capsula calyce coronata, bilocularis, bivalvis, septicide dehiscens, dissepimento, præter inflexos valvularum margines, nullo; loculis monospermis intus demum hiantibus."—But in other fruits on the same specimen we find a different mode of dehiscence. Not unfrequently one* or both valves separate from the flat inner superficies of the valves or

2. *Bouvardia xylosteoides*; fruticosa, humilis? foliis ternis late ovatis obtusis breviter petiolatis molliter pubescentibus subtus pubescenti-sericeis, stipulis late ovatis membranaceis pubescentibus bi-trisetigeris, floribus subcapitatis, capitulis 3-6-floris sessilibus, calycis tubo tomentoso, limbi laciniis elongatis spatulatis foliaceis, corolla tomentoso-sericea, limbi laciniis brevibus ovatis.

HAB. On slightly elevated mountains about Mitlam, Province of Oaxaca. *Andrieux, Pl. Mexic. exsicc. n.* 393.—A small, apparently humble shrub, with a good deal the general aspect of some of the North American species of *Xylosteum*. Leaves, including the petioles, three-fourths of an inch long, soft and downy, silky beneath. The teeth of the calyx are long, spatulate and leafy. The corolla clothed with dense, white, silky tomentum; the limb of 4 short broadly ovate, spreading segments. The heads of few flowers seem to be quite sessile.

3. *Bouvardia discolor*; fruticosa, foliis oppositis ovatis acuminatis breviter petiolatis supra hirsutis subtus albedo-tomentosis in junioribus candidissimis, stipulis ovato-lanceolatis liberis (?) deciduis, corymbis densifloris capitatis pedunculatis terminalibus bracteatis, calycis lobis lanceolatis elongatis, corolla albedo-tomentosa.

HAB. Between Tehuantepec and Voca del Monte, Province of Oaxaca. *Andrieux, Pl. Mexic. exsicc. n.* 334.—A doubtful species of *Bouvardia*. The stems are woody, tortuous; the older parts of the branches marked with the scars of fallen leaves and stipules; younger branches very downy, almost woolly. Leaves opposite 2-3 inches long, penninerved, moderately hairy above, woolly and much paler coloured beneath, where in the young leaves it is pure white. Flowers densely crowded, so that the corymbs appear rather to be capitula; the segments of the calyx elongated, almost leafy. The corollas about an inch long, canescent with white woolly down.

* And then the character is that of *Spermacoce*, if we understand it rightly, "Capsula calycis limbo sæpe oblitterato coronata, bilocularis, coecis monospermis ab apice bipartitilibus, altero septo adnato clauso, altero septo rupto aperto." De Cand.—Or, according to Schlechtendal, "Capsula calyce coronata, bilocularis, bivalvis, dissepimento parallelo; loculi monospermi, alter septifrage dehiscens, alter dissepimento adnato clausus."—*Schlecht. in Linnaea*, 3, p. 355.

carpels, shown at figs. 3 and 4, and then the dissepiment is clearly seen to be double (fig. 7.) and of quite a distinct substance (not herbaceous, but between membranous and coriaceous) from the valve: and these, singly or two together, may often be seen among the clusters of fruit, resembling white, oval chaffy scales. In other words, the dissepiments sometimes fall away with the respective cells or carpels and sometimes remain attached to the receptacle after these latter have separated. This receptacle is a small spongy conical body (fig. 4.) whose apex reaches to the point of attachment of the seed. The valves are almost hemispherical; one frequently bears three teeth of the calyx, and the other two. The cavity is entirely filled by the seed, which is nearly hemispherical, transversely wrinkled, anteriorly marked with a deep longitudinal furrow, and, near the base of that furrow, with a scar where the seed was attached to the dissepiment. Among the capsules are numerous setæ.

The habit of *Bigelovia*, it must be confessed, is completely that of *Spermacoce*, as is that of *Diodia* likewise; and we cannot but agree with Achille Richard in his observations on the Genus *Spermacoce*, *Mém. sur la Famille des Rubiacées*, p. 150. "Un examen attentif d'un très grand nombre d'espèces nous a convaincu de la nécessité de réunir en un seul les trois genres, *Spermacoce*, *Diodia* et *Borreria* (*Bigelovia*); c'est toujours un même type d'organisation, non seulement dans toutes les parties de la fleur, mais encore pour le fruit d'après lequel on a fondé la distinction de ces trois genres. En effet que les deux coques restent parfaitement closes comme dans les *Diodia*, ou bien qu'elles offrent une fente longitudinale comme dans les *Borreria*, ou enfin que la cloison reste complètement adhérente à l'une des coques, tandis qu'elle manque dans l'autre coque comme dans les véritables espèces de *Spermacoce*; nous ne voyons là, nous le répétons, qu'un même type d'organisation, d'autant plus que très-souvent ces caractères ne sont pas si nettement dessinés qu'il soit facile de rapporter une espèce à telle ou telle de ces trois modifications. Nous pensons donc qu'au lieu d'en former des types de genres, elles peuvent simplement être employées pour établir des subdivisions ou sections dans le genre *Spermacoce*, qui est fort nombreux en espèces."

TAB. XCIX. B.—Fig. 1, 2. Capsules; fig. 3, 3. Valves or carpels separated from the receptacle (fig. 4.); fig. 5, 5. Valves separated from the dissepiments, which latter remain attached to the receptacle (fig. 6.); fig. 7. Back view of a seed; (at fig. 5. The inner face of the seed is seen):—*magnified*.

1. *Mitracarpum Schizangium*; diffusum suffruticosum, ramis subtetragonis pubescentibus, foliis oblongo-lanceolatis acuminatis utrinque et margine scabris, stipulis pubescentibus membranaceis setis rigidis, floribus axillaribus verticillatis et terminalibus capitatis 4-phyllis, filamentis inclusis, seminibus cruciatim 4-lobis, lobis emarginatis. (TAB. XCIX. A.) *De Cand. Prodr.* 4. 572. *Hook. et Arn. supra*, p. 295.—*Schizangium durum*. *Bartl. in Herb. Hænke.* (DC.)

HAB. San Blas to Tepic.

Caulis pedalis ad sesquipedalem, tereti-obscure tetragonus, glaber vel subpuberulus, basi suffruticosus, diffusus, ramosus, ramis brevibus. *Folia* opposita, (internodiis elongatis, præsertim in caule ubi 4-6 uncias longis) lanceolata, rigidiuscula, 2-3 uncias longa, 3-4-lineas lata, utrinque acuminata, vix petiolata, subtrinervia, vel potius nervis paucis costa parallelis scabriuscula, ad marginem et ad nervos subtus scabra, pagina inferiore subpubescentia. *Stipulae* latæ, membranaceæ, pubescentes, margine denticulatæ et spinulis vel setis rigidis tribus appressis ferentes; seta intermedia longiore validiore. *Flores* parvi numerosi, glomerato-verticillati, in axillis et in stipulis foliorum supremorum siti, vel terminales capitati, capitulo subtetraphyllo, inter flores setoso; setæ numerosæ. *Flores* brevissime pedicellati. *Calycis* tubus globosus, subdidymus, obscure costatus glaber, superne setoso-scaber, limbus 4-dentatus, dentibus subulatis, quorum duabus oppositis duplo longioribus latioribusque, tubum 4-plo superantibus, minoribus albidis, omnibus rigidis erectis, marginibus setoso-scabris, diaphanis. *Corolla* infundibuliformis, dentibus calycinis longior, extus pubescens, tubo gracili, limbo 4-lobo, lobis ovatis

patentibus. *Stamina* 4. *Antheræ* oblongæ, vix exsertæ. *Stylus* longe exsertus. *Stigma* bifidum, lacinia patentibus vel recurvis. *Capsula* membranacea, calycis dentibus erectis rigidis coronata, bilocularis, loculis monospermis, matura paulo infra medium circumscisse dehiscens "scissuræ planum utrinque a dissepimento declive, sic ut pars decidua angulo fere recto appareat excisa." (Schlecht.) *Semen* ovali-subquadratum, fere hemisphæricum, brunneum, cruciatim quadrilobum, lobis linea transversali emarginatis.

This plant, as well as the other individuals of the genus, have so much the habit of *Spermacoce*, that, without a careful examination of the fruit, the distinction is not evident. But there a remarkable difference is observable, which has given rise to the generic name. The capsule is a *pyxidium*, separating into two portions, not indeed exactly transversely, but with an angle somewhat resembling that of a V inverted, and the upper half, shaped like a mitre, falls away, frequently carrying the seeds along with it, which are detached from the dissepiment that remains in the lower half (*fig. 4, 5*.) The seeds are extremely curious, and judging from the figure in the *Linnaea*, very different from those of *M. Humboldtianum*, one of the species on which the Genus was founded.—Stems and branches dark-coloured.

TAB. XCIX. A. MITRACARPUM SCHIZANGIUM.—*Fig. 1.* Flower; *fig. 2.* Fruit; *fig. 3, 4.* Capsule with the two portions separated; *fig. 5.* Front (or inner) view of a seed; *fig. 6.* Back view of ditto; *fig. 7.* Side view of ditto:—*magnified.*

2. *M. pallidum*; herbaceum erectum, ramis elongatis flexuosis, foliis ovato-lanceolatis acutiusculis basi in petiolum attenuatis utrinque scabro-puberulis, stipulis hirsutis spinoso-setigeris, floribus axillaribus verticillatis et terminalibus capitatis 4-phyllis, filamentis exsertis, seminibus—?

HAB. Realejo.—This, although very nearly allied to the preceding, is certainly a distinct species; it is herbaceous, with an annual root. The stem is erect, and, as well as the elongated branches, of a singularly pale colour, and glossy; they are rounded, with 4 but little elevated lines, thus indistinctly quadrangular, very slightly downy. The leaves are broader, softer, and more decidedly petiolated, equally long in general, but the uppermost ones, those forming a sort of involucre beneath the terminal head of flowers, are shorter. The stems are one foot and a half to two feet long. The specimens have no fruit.

1. *Crusea parviflora*; elata herbacea, ramis elongatis gracilibus divaricatis, foliis ovato-lanceolatis tenuibus in petiolum attenuatis hirsutulis, umbellis capitatis terminalibus tetraphyllis, pedicellis calycis lobis basi sericeo-villosissimis, ovario didymo lobis disjunctis, calycis tubo supra ovarium maxime constricto. (**TAB. XCIX. C**)

HAB. Acapulco.

Caulis herbaceus, erectus, tetragonus, gracilis, glaber, nitidus, bi-tripedalis et ultra, ramosus. *Rami* oppositi non raro subverticillati, divaricato-patentes, filiformes, internodiis elongatis. *Folia* opposita, brevipetiolata, 1-2 uncias longa, ovato-lanceolata, tenui-membranacea, acuta vel acuminata, basi cuneato-attenuata, glabra vel villosula, subtus pallidiora, penninervia, nervis oblique subparallelis. *Stipula* lata, membranacea, glabriuscula, setis inæqualibus appressis rigidis marginatæ. *Flores* parvi, umbellato-capitati, capitulis hemisphæricis semiunciam latis, involucreatis, involucre tetraphyllo, foliolis sessilibus ovato-lanceolatis, 3-5-nerviis, duobus oppositis triplo minoribus, majoribus unciam longis: intra flores setis vel paleis plurimis angustis villosis. *Pedicelli* pilis longis sericeis hirsutissimi. *Calycis tubus* glaber, ob formam ovarii inferne didymus, superne insigniter constrictus, dein in limbum 4-lobum profunde 4-partitum dilatatus. *Limbus* basi membranaceus, hirsutissimus, albus; lacinia elongatis, lineari-spathulatis, herbaceis, acutis, ciliatis,

erecto-patulis. *Corolla* infundibuliformis, lacinas calycinas superans, extus pubescens; *tubus* inferne gracillimus superne dilatatus; *limbus* 4-lobus, lobis ovatis erecto-patentibus. *Stamina* 4: *filamenta* lobis corollæ alternis, longe exsertis; *antheræ* subglobosæ. *Stylus* gracilis, corolla fere duplo longior; *Stigma* parvum, bilobum. *Fructus* dicoccus, calycis limbo basi contracto (et pedicellum imitante) coronatus: coccis globosis monospermis, punctatis, indehiscens, demum ab axi persistente plano fenestrato calyce persistentem retinente solutis. *Semen* subglobosum, nigrum, rugosum, intus sulco profundo longitudinali notatum.

This is a tall growing plant, with slender glossy stems, spreading filiform branches, and thin membranaceous leaves. Flowers so small, and in so perfect an involucre as to look, at first sight, like those of some *Compositæ*: this involucre, at the base, by the union of the base of the leaves through the medium of the stipules, is cup-shaped. The flowers themselves are extremely curious, white or yellowish. Each one is pedicellate: the pedicels very hairy, or rather silky, and mixed with very narrow silky paleæ or membranous setæ. The ovary, though of course adherent with the tube of the calyx, has its two rounded lobes so separated by the axis, or continuation of the pedicel, that these lobes have the appearance of two globose glands, placed one on each side of the pedicel below its apex; for above the ovary the calyx-tube becomes suddenly contracted, so as to resemble a pedicel to the free portion or limb of the calyx; this latter is large (in proportion to the size of the flower), deeply cut into five, erecto-patent, spatulate, but acute, herbaceous segments, slightly fringed at the margin, whilst the white and membranous base is clothed with long, spreading, silky hairs, like the pedicel. Cocculi but little altered from the lobes of the ovary, rather larger, and darker coloured, punctate; they are indehiscent, fall off and leave the axis or flattened upper portion of the pedicel, which is fenestrated (fig. 3.), or perforated with an oblong fissure, within which, at the base, is the placenta or receptacle of the seeds. The pericarp is rather thin, but succulent, and adheres pretty closely to the seed which is black and wrinkled, its inner face marked with a deep oblong furrow.

TAB. XCIX. C. CRUSEA PARVIFLORA.—Fig. 1. Flower; fig. 2. Fruit, crowned with the persistent calyx; fig. 3. Calyx, after the cocules have fallen away, to show the perforated axis and the placenta or receptacle of the seeds; fig. 4. Back view, and fig. 5. front view of a cocule; fig. 6. Seed:—magnified.

2. *Crusea subulata*; robusta, caulibus elongatis diffusis ramisque acute tetragonis angulis inferne alatis, foliis ovatis ovato-lanceolatisve petiolatis rigidiusculis pubescenti-tomentosis, ovario bilobo, corollæ laciniis concavis, stigmatibus clavatis integris.

HAB. Between San Blas and Tepic.—Stems two feet and more long, spreading, acutely 4-angled, the angles winged below. Branches elongated, downy, stipules a broad short downy membrane with 2-4 rigid setæ. Leaves an inch or an inch and a half long, of a harsh and firm texture compared with the preceding species, penninerved, the nerves few and nearly parallel with the midrib. Flowers pedicellate, but so dense as to form a very compact globose capitulum within the four-leaved involucre. Pedicels short, hairy. Ovary glabrous, globose, but scarcely 2-lobed. The contraction of the tube of the calyx above the ovary is very slight. Calyx-limb much resembling that of the last species, but silky on the whole outer surface. Corolla with much longer and very concave, almost boat-shaped segments, velvety on the outside. Filaments very long and much inserted. Style shorter than the stamens. Stigma clavate or capitate, quite entire.—We find no description of this, or of the foregoing species, both of which undoubtedly belong to the Genus *Crusea*.

ORD. XXV. VALERIANEÆ. Juss.

1. *Astrephia Mexicana*; glabra, foliis bi-tripinnatifidis laciniis lineari-subacuminatis, paniculæ terminalis ramulis gracilibus dichotome corymbosis, ramis ultimis spicatis

floriferis, bracteis distichis, floribus fructibusque secundis, corolla basi subgibba, calycis limbo obseleto integro.—*Valeriana ceratophylla*, Hook. et Arn. supra, p. 296. not H.B.K.

HAB. San Blas and Tepic.—Notwithstanding the great similarity between this plant and the *Valeriana ceratophylla* of H.B.K. Nov. Gen. Am. 3. t. 276. (so great indeed, that we had in a former part of this work hastily considered it the same), it is in reality a totally different thing, not even referrible to the Genus *Valeriana* at all. It is a true *Astrephia*, having no pappose calycine limb, but a very indistinct entire border, a mere slightly elevated rim. The flowers at first appear to be capitate at the extremity of the little ramuli of the corymbs: but as the fructification advances, these ramuli are elongated into slender spikes, with closely placed, almost imbricated, distichous, fringed, ovato-lanceolate bracteas, within which the ovary is situated. Corolla very narrow at the base, and there a little oblique, but scarcely gibbous. Stamens 2, almost entirely included. Style much inserted. Stigmas 3. Limb of the calyx obsolete, unaltered in fruit. Fruit glabrous, ovato-triquetrous, with two elevated lines in front, indicating two abortive cells. The more advanced fruit is, however, only 1-celled, very deciduous, leaving the rachis pectinated, as it were, with the closely-placed distichous scales or bracteas.

ORD. XXVI. COMPOSITÆ.

TRIB. I. VERNONIACEÆ.

1. *Vernonia* (§ *Lepidaploa*) *lanceolaris*; caule tereti striato pube feruginea parce velutino, foliis petiolatis lanceolatis basi subobtusis apice acuminatis serrulatis supra glabris, subtus petiolisque parce velutinis, paniculæ ramis axillaribus ebracteatis ramosis velutinis, capitulis sessilibus ovatis 20-floris lateralibus et terminalibus, involucri cuam omnibus mucronatis dorso subpuberis, corolla glabra, receptaculo alveolato, nio puberulo, pappi serie exteriore brevi vix paleacea. De Cand. Prodr. 5. p. 37.

HAB. Realejo.—De Candolle's character of this plant is drawn up from a Mexican specimen in Hænke's Herb., and consequently we believe that it is from the Pacific side of Mexico, and the character quite accords with our Realejo specimens. The stem and branches are decidedly woody and striated, upwards clothed with rusty down. Leaves 4-6 inches long, broadly lanceolate, penninerved and reticulated, of a harsh texture, wrinkled when dry. Petiole half an inch long. Panicle large, many-flowered, terminal, the branches leafy at the base; the ultimate ones slightly recurved, bearing the capitula sessile on the upper side. Scales of the involucre green with a white border.

1. *Distreptus spicatus*, Cass.—De Cand. Prodr. 5. p. 87. Hook. et Arn. supra, p. 296. —*Elephantopus spicatus*, Juss.

HAB. Realejo.—Our specimens have larger capitula than usual, and from 4 to 6-8 collected in each bractea; but it is a species liable to much variation, according to De Candolle.

1. *Lagascea latifolia*; fruticosa, foliis sessilibus amplexicaulibus oblongis acuminatis serratis integerrimisve supra scabris subtus molliter pilosis reticulatis, capitulis corymboso-paniculatis. De Cand. Prodr. 5. p. 92. Hook. et Arn. supra, p. 296.—*Nocca latifolia*, Llave et Lex. Nov. Veg. Descr. 1. p. 31. Sweet, Br. Fl. Gard. t. 215.

HAB. Between San Blas and Tepic.—Our specimens, only portions of the plant, are a foot to a foot and a half long, leaves 4-6 inches long, opposite, and, by means of the short semi-amplexicaul petioles, even

[*Compositae*.

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